# NLWJC - Kagan

# Counsel - Box 031 - Folder 005

# Lotus v. Borland [1]

# Withdrawal/Redaction Sheet
## Clinton Library

| DOCUMENT NO. AND TYPE | SUBJECT/TITLE | DATE | RESTRICTION |
|---|---|---|---|
| 001(a). fax | Fax copy of memorandum from Michael Kantor to John Quinn. Subject: Lotus v. Borland. (1 page) | 12/06/1995 | P5 |
| 001(b). fax | Fax copy of memorandum for Ambassador Michael Kantor from Tom Robertson. (3 pages) | 12/06/1995 | P5 |
| 002. fax | Fax copy of memorandum for Jack Quinn from Kathleen Wallman. Subject: Lotus v. Borland (1 page) | 12/06/1995 | P5 |
| 003(a). fax | Fax copy of letter from Kathleen Ambrose to Drew S. Days. Re: Lotus Development v. Borland International (3 pages) | 12/06/1995 | P5 |
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**COLLECTION:**
Clinton Presidential Records
Counsel's Office
Elena Kagan
OA/Box Number: 8293

**FOLDER TITLE:**
Lotus v. Borland [1]

2009-1006-F
vz134

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MEMORANDUM FOR JACK QUINN

FROM: KATHLEEN WALLMAN

SUBJECT: LOTUS V. BORLAND; CALL FROM COUNSEL FOR LOTUS

DATE: DECEMBER 6, 1995

COPY: ELENA KAGAN

for to

Elena and I returned the call to Lester Hyman. He noticed that, on Monday, the SG filed with the Supreme Court a motion requesting time for oral argument. The motion stated that Borland had agreed to the SG's participation and that the SG would be filing a brief in support of Borland.

Elena and I told Mr. Hyman that his arguments were still under consideration by various agencies and that the SG's filing was not an announcement that the discussion was concluded. Rather, the SG merely was making a timely filing, as required by the Court, to preserve its option to participate if DOJ's hoped-for outcome occurred.

[I wonder if some of the interested agencies might believe that the SG, if he does decide to file the brief, should not compound the discomfort felt by other agencies by taking argument time before the Court and thereby raising the profile of the United States' position.]

Kw

UNITED STATES DEPARTMENT OF COMMERCE
Office of the General Counsel
Washington, D.C. 20230

cc: JQ
Elena Kagan

# FAX TRANSMITTAL SHEET

TEL NUMBER: 202-482-4772
FAX NUMBER: 202-482-0042

DATE: 12/6/95

TO: Kathy Wallen ROOM:

FAX: 456-6279 NUMBER OF PAGES: 6

TEL:

FROM: Kathleen Ambrose ROOM: 5870
14th & Consitution Ave., NW
Washington, DC 20230

MESSAGE:
FYI.

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Office of the Deputy Attorney General
Washington, D.C. 20530

# FACSIMILE COVER SHEET

DATE: 12/5/95

TO: Elena Kagan

FAX NUMBER 456 1647

PHONE NUMBER:

FROM: **David W. Ogden**
**Associate Deputy Attorney General**

Tel. (202) 514-8633
Fax (202) 514-6897

ADDITIONAL INFORMATION:

NUMBER OF PAGES INCLUDING COVER SHEET: 36 37

U. S. Department of Justice

Office of the Solicitor General

LOTUS

*Washington, D.C. 20530*

December 5, 1995

To: Copyright Office
Patent and Trademark Office
Antitrust Division
Civil Division

From: Beth Brinkmann

Re: Lotus v. Borland

Attached is a draft brief I have produced. Because of the short timeframe, the Solicitor General has asked me to circulate it to you prior to his review or Deputy Solicitor General Wallace's review. The Solicitor General asks that you make every effort to address the substance of the draft with the expectation that we will be filing a brief that generally supports respondent.

Please, return all comments to me by 3 p.m. today. I apologize for the short turnaround time. I will be at court this morning and into the early afternoon. I look forward to your comments, corrections, suggests.

Finally, please remember that the draft is intended for internal review only.

No. 94-2003

IN THE SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1995

LOTUS DEVELOPMENT CORPORATION, PETITIONER

v.

BORLAND INTERNATIONAL, INC.

ON WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE FIRST CIRCUIT

# BRIEF FOR THE UNITED STATES AS AMICUS CURIAE SUPPORTING RESPONDENT

Department of Justice
Washington, D.C. 20530
(202) 514-2217

## QUESTION PRESENTED

Whether the command hierarchy used by petitioner's computer program to identify the functions evoked by computer keystrokes when used in particular sequences, is an "idea, procedure, process, system, method of operation, concept, principle, or discovery" and therefore excluded from copyright protection by Section 102(b) of the Copyright Act, 17 U.S.C. 102(b).

IN THE SUPREME COURT OF THE UNITED STATES

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## INTEREST OF THE UNITED STATES

This case presents the question whether the command hierarchy used by petitioner's computer program to identify the functions evoked by computer keystrokes when used in particular sequences, is an "idea, procedure, process, system, method of operation, concept, principle, or discovery" and therefore excluded from copyright protection by Section 102(b) of the Copyright Act, 17 U.S.C. 102(b). The United States has a substantial interest in the resolution of the question presented. The Register of Copyrights has the responsibility to register copyrights for works that she determines constitute copyrightable subject matter, including original expression in

computer programs, and which meet certain other formal requirements of the Act. See 17 U.S.C. 410(a). The standards for copyright protection embody a balance struck between protecting private ownership of expression as an incentive for creativity and enabling the free use of basic building blocks for future creativity to avoid monopolistic stagnation. See Twentieth Century Music Corp. v. Aiken, 422 U.S. 151, 156 (1975). The United States' interests in ensuring the proper preservation of that balance also reflect the fact that it has primary responsibility for enforcing the antitrust laws, which establish a national policy favoring economic competition as a means to advance the public interest.

STATEMENT

1. Petitioner markets a copyrighted computer program known as Lotus 1-2-3.[1] Lotus 1-2-3 is an electronic spreadsheet that can perform operations on data organized and displayed in rows and columns like those of a paper spreadsheet. Pet. App. 230a-231a. The spreadsheet user tells Lotus 1-2-3 what functions to perform by entering commands through a keyboard. Id. at 129a. Petitioner organized Lotus 1-2-3's function commands by using

> a system of menus, each menu consisting of less than a dozen commands, arranged hierarchically, forming a tree in which the main menu is the root/trunk of the tree and submenus branch off from higher menus, each submenu being linked to a higher menu by operation of a command * * * so

[1] Petitioner's original complaint alleged infringement of its copyright in Lotus 1-2-3 version 2.0 and earlier versions. The district court examined version 2.0 and version 2.01, a copyrighted derivative work. Pet. App. 81a. Respondent did not contend that any differences between the programs had a bearing on issues in this case. Ibid. We refer to petitioner's products generically as Lotus 1-2-3.

> that all the specific spreadsheet operations available in Lotus 1-2-3 are accessible through the paths of the menu command hierarchy.

Ibid. A user causes Lotus 1-2-3 to display menus of commands by striking the "/" key. A user may select function commands from a menu only while that menu is displayed. To select a command, a user either strikes the key corresponding to a highlighted letter in the desired command (usually the first letter of the command) or uses a cursor to highlight the command in the menu and strikes the enter key. Id. at 232a.

The command to which a particular keystroke corresponds depends on the menu displayed at the time the letter is entered. The function evoked by a sequence of keystroke commands depends on the order in which the commands are entered, i.e. on the structure of the command hierarchy. For example, in the sequence "/FR," "F" stands for the File command which invokes the File submenu and "R" stands for the Retrieve command that is in the File submenu. But, in the sequence "/RF," "R" stands for the Range command which invokes the Range submenu and "F" stands for the Format command that is contained in the Range submenu. Thus, "/FR" retrieves a file, and "/RF" invokes the Format submenu. See Pet. App. 110a-111a ("C" may invoke Currency or Copy function, depending on the other commands in the sequence). In order to avoid "going step-by-step through the same sequence of commands each time there is a need to perform a particular function," a user can store "a sequence of command terms as a 'macroinstruction,' commonly called a 'macro,' and then, with one command stroke that invokes the macro, cause the programmed computer to execute the entire

sequence of commands." Id. at 228a-229a.

Respondent, Borland International, Inc. ("Borland"), created and marketed a spreadsheet program known as Quattro.[2] Quattro uses a function command hierarchy that differs significantly from that used by Lotus 1-2-3. See Pet. App. 108a. In addition, however, Quattro was designed to enable users to select an emulation mode that uses the Lotus 1-2-3 command hierarchy. The emulation mode presents users with on-screen command menus that differ stylistically from the Lotus 1-2-3 on-screen command menus, but which contain the same commands in the same order as the Lotus 1-2-3 command menus (along with many additional commands not found in the Lotus 1-2-3 menus). Id. at 82a-84a. Thus, Quattro users could use Lotus 1-2-3 keystroke sequences to cause Quattro to perform functions. In addition, the emulation mode enabled Quattro to read and execute macros that had been written using the Lotus 1-2-3 command hierarchy.

2. a. Petitioner filed suit in July 1990, in the United States District Court for the District of Massachusetts, alleging that respondent's Quattro infringes petitioner's copyright in its Lotus 1-2-3 computer software program, and seeking damages and equitable relief. Pet. App. 145a-146a. The district court initially denied cross motions for summary judgment, Id. at 145a-182a, but invited the parties to file renewed motions for summary judgment compatible with the court's accompanying rulings.

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[2] Respondent marketed its initial program as Quattro and a later program as Quattro Pro, which has been released in several versions. Pet. App. 82a. Only certain versions contained the emulation mode, id. at 82a, and only certain versions contained the key reader, id. at 33a. We refer to respondent's products generically as Quattro.

After a hearing on the parties' renewed motions, the district court granted petitioner partial summary judgment. Pet. App. 106a-144a. The court ruled that there was no genuine issue of dispute that respondent copied the Lotus 1-2-3 menu commands and hierarchy and thus the macro language. See Id. at 108a-115a. The court held that those aspects of the Lotus 1-2-3 interface, taken together, are copyrightable. The court recognized that the command hierarchy is dictated to some extent by functional considerations and that the selection of functional operations is part of the idea of the program. It held, nonetheless, that the command hierarchy, i.e. the macro language, contains "identifiable elements of expression" not essential to every expression of the idea, system, process, procedure, or method and those elements played a substantial role in Lotus 1-2-3. Id. at 131a, see also id. at 115a-125a, 128a-140a.[3] The court ruled that Quattro infringes the Lotus 1-2-3 user interface in substantial part and that the extent to which functional concerns dictated the command arrangements would merely affect the scope of the relief to be determined at trial. Id. at 133a, 137a-139a.

The district court distinguished Baker v. Selden, 101 U.S. 99 (1879), as involving a system that depends on the use of copyrighted matter. Pet. App. 125a, 127a. The court also noted that it was not faced with the question whether respondent "is prohibited from reading

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[3] The district court noted the then-recent decision by the Second Circuit in Computer Assocs. Int'l v. Altai, Inc., 982 F.2d. 693 (1992), and stated that it believed the analysis it applied was compatible with the analysis announced in that case to determine the substantial similarity of copyrightable aspects of a computer program. Pet. App. 119a-121a.

and interpreting the macros that have been created by users of 1-2-3." Id. at 124a. The court indicated that had respondent "created a program that read users' 1-2-3 macros and converted them to macros for use in the Quattro programs' native modes, so that they could be interpreted, executed, modified, debugged, etc. by resort to [respondent's] command hierarchy, that would have presented a different case." Id. at 124a-125a. Finally, the court rejected respondent's defense of waiver and left its claims of laches and estoppel for later resolution. Id. at 140a-143a.

In light of the partial summary judgment ruling, respondent removed the emulation mode from Quattro. Pet. App. 33a. Respondent did not, however, remove the key reader which it had included along with the emulation mode in certain versions of Quattro. The key reader is not part of the emulation mode. Id. at 31a. It may be turned on while the user continues to use the Quattro menu command hierarchy. Ibid. The key reader allows Quattro to execute basic macros written in the Lotus 1-2-3 macro command language, but it does not display any function command menus containing those commands. See id. at 31a-33a. The key reader does not allow debugging or modification of Lotus 1-2-3 macros and does not permit execution of most Lotus 1-2-3 interactive macros. Id. at 8a & n.3. Petitioner supplemented its complaint, by leave of court, to allege that the key reader infringes its Lotus 1-2-3 copyright. Id. at 75a.

b. The district court held two bench trials on the remaining liability issues and issued two opinions -- the Phase I opinion addressed the emulation mode (Pet. App. 71a-105a) and the Phase II

opinion addressed the key reader (Id. at 29a-68a). The district court found that both the emulation mode and the key reader infringe petitioner's copyright.

In its Phase I opinion, the district court ruled that the only issue before it concerned the copying of menu commands and menu structure. Pet. App. 77a. The court again emphasized that "[a]s part of the 'idea,' the determination of the function of each executable operation is not protected by copyright law." Id. at 81a. It nonetheless ruled that the command hierarchy, i.e. the macro language, is protected by copyright law because that arrangement of the definition and identification of the operations contains expression. Ibid. It held that the Lotus 1-2-3 command hierarchy is just one of many possible expressions that are consistent with the functional considerations and executable operations in Lotus 1-2-3. Id. at 86a. The court ruled that creation of the command hierarchy required sufficient originality to justify protection under copyright. Id. at 90a-94a. The court rejected respondent's laches and estoppel defenses. Id. at 95a-105a.

In its Phase II opinion, the district court held that respondent's key reader infringes petitioner's copyright in Lotus 1-2-3. The court found that the key reader file "contains a virtually identical copy of the Lotus menu tree structure, but represented in a different form and with first letters of menu command names in place of the full menu command names." Pet. App. 35a. Respondent contended that "copying of the 1-2-3 menu tree structure and first letters of command names is a necessary part of any system for interpreting Lotus

1-2-3 macros" and thus does not constitute copyright infringement because systems are not susceptible to copyright protection. Id. at 36a. The court agreed that to interpret a Lotus 1-2-3 macro, a program must use the Lotus 1-2-3 menu structure, otherwise the program would have no means of understanding the macro, e.g. that "/RFC" refers to "a path through a menu tree to the specific executable operation that changes a cell or cells appearance to monetary units." Id. at 39a. The court rejected, however, respondent's contention that the Lotus 1-2-3 "menu tree structure and first letters of the menu commands constitute a 'system' or 'method,' as those terms are used in copyright law." Ibid. The court concluded that "the Lotus menu structure and organization (including the first letter of the commands, used to mark the structure) are part of the protectable expression found in the Lotus 1-2-3 program." Id. at 44a.[4] The court found that respondent's copy of the details of expression of the menu structure is virtually identical to petitioner's expression of the Lotus 1-2-3 menu structure, that any differences did not negate a finding of substantial similarity, and that the copied menu structure constitutes a substantial part of petitioner's expression thereby infringing petitioner's copyright. Id. at 46a-48a. The court rejected respondent's waiver, laches, estoppel, and fair use defenses.

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[4] The court declined to decide whether "copying of the Lotus menu structure for the purpose of one-time translation" that converts a macro into a different macro language is permissible under copyright law. Pet. App. 38a-39a, 46a. Quattro's key reader does not translate macros on a one-time basis, but instead translates the macro anew each time it is used so that the macro remains written in the Lotus 1-2-3 macro language. Id. at 38a.

Id. at 48a-68a. The district court entered an order permanently enjoining respondent from distributing versions of Quattro containing "in any portion, component or module thereof, a copy of the Lotus 1-2-3 menu commands and/or menu structure, in any form." Id. at 69a-70a.

3. The court of appeals reversed. Pet. App. 1a-28a. The court held that petitioner's Lotus 1-2-3 menu command hierarchy is not copyrightable.[5] The court noted that "[c]omputer programs receive copyright protection as 'literary works,'" id. at 11a n.5, and that respondent did not dispute that "Lotus has a valid copyright in Lotus 1-2-3 as a whole." Id. at 11a. The court ruled, however, that the part of the program that constitutes the Lotus 1-2-3 menu command hierarchy is uncopyrightable because it is a "method of operation" foreclosed from copyright protection by section 102(b) of the Copyright Act, 17 U.S.C. 102(b). The court explained that it understood "method of operation," as used in Section 102(b), to "refer

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[5] The court of appeals did not address the copyrightability of Lotus 1-2-3's screen displays (Pet. App. 16a n.10), long prompts (id. at 16a n.9), or program code (id. at 16a-17a n. 11). Petitioner initially had argued that Quattro copied the entire Lotus 1-2-3 user interface, that is the screen displays seen by the user, including on-screen messages that accompanied function commands (referred to as long prompts). In its preliminary ruling, however, the district court found that respondent did not copy the entire Lotus 1-2-3 interface. Pet. App. 7a. The parties stipulated pretrial that neither party would contend that the issue of whether respondent copied the long prompts was material to the resolution of the case. Id. at 7a n.2, 75a-76a. And petitioner did not "contend on appeal that the district court erred in finding that Borland had not copied other elements of Lotus 1-2-3, such as its screen displays." Id. at 10a. Petitioner never alleged that respondent had copied any of the "statements or instructions" constituting the actual program code of Lotus 1-2-3.

Because the court of appeals ruled that petitioner's command hierarchy is not copyrightable, that court also did not consider respondent's affirmative defenses, such as fair use. Pet. App. 22a.

to the means by which a person operates something, whether it be a car, a food processor, or a computer." Pet. App. 15a. The menu command hierarchy is an uncopyrightable method of operation, in the court's view, because it "provides the means by which users control and operate Lotus 1-2-3." Ibid. The court found that "[w]ithout the menu command hierarchy, users would not be able to access and control, or indeed make use of, Lotus 1-2-3's functional capabilities." Id. at 16a, 18a-19a. The court distinguished the menu command hierarchy from the underlying computer code for purposes of copyrightability because "while code is necessary for the program to work, its precise formulation is not" and thus it is original expression subject to copyright. Ibid. Noting the district court's holding that the command hierarchy "constituted an 'expression' of the 'idea' of operating a computer program with commands arranged hierarchically into menus and submenus," id. at 17a, the court held that "expression that is part of a 'method of operation" cannot be copyrighted." Id. at 17a, 21. For, "[i]f specific words are essential to operating something, then they are part of a 'method of operation' and, as such, are unprotectable." Ibid. The court of appeals found that the Lotus 1-2-3 menu command hierarchy falls within the prohibition on copyright protection established in Baker v. Selden, 101 U.S. at 104-105, and codified by Congress in Section 102(b).[6]

Judge Boudin filed a concurring opinion in which he observed that

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[6] The court of appeals declined to apply the analysis set forth by the Second Circuit in Altai, because it viewed that analysis to be applicable in instances of alleged copying of nonliteral expression and not in instances, such as here, of literal copying. See Pet. App. 13a-15a.

this case "is an unattractive one for copyright protection of the menu." Pet. App. 26a. He pointed out that respondent had not "shown any interest in the Lotus 1-2-3 menu except as a fall-back option for those users already committed to it by prior experience or in order to run their own macros using 1-2-3 commands." Id. at 25a. He found it unlikely that anyone who values the Lotus menu for its own sake, would seek access to it by choosing respondent's program. Id. at 26a. Therefore, the question was "not whether Borland should prevail, but on what basis." Id. 27a. In Judge Boudin's view, the court's focus on "method of operation" as an answer to that question was "defensible," id., even though Section 102(b) "if taken literally might easily seem to exclude most computer programs from [copyright] protection." Id. at 24a. Judge Boudin suggested that another approach would be to deem respondent's use of the copied command hierarchy to be a privileged use analogous to a fair use. Id. at 27a-28a.[7]

## SUMMARY OF ARGUMENT

The Copyright Act of 1976, 17 U.S.C. 101 et seq., embodies the long established distinction between ideas, which are not protectable by copyright, and original expression, which is susceptible to copyright -- a distinction that was first applied in Baker v. Selden,

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[7] After the court of appeals issued its mandate, the district court vacated the injunction. Order Vacating Permanent Injunction, May 25, 1995. Pursuant to local rules, the case was transferred to a different district judge, and respondent moved for entry of judgment, contending that no issues remained to be resolved. The district court declined to enter judgment, Order, June 30, 1995, and respondent has appealed and filed a petition for mandamus. These matters are pending before the court of appeals. Nos. 95-1793 and 95-1885 (1st Cir.).

101 U.S. 99 (1879). Congress made clear that, by enacting Section 102 of the Act, it codified the idea/expression dichotomy for determining copyrightability. To the extent the court of appeals' analysis may be read as disregarding that fundamental dichotomy, the Court should reject it. The court of appeals' broad reading of the phrase "method of operation," in Section 102(b) of the Act, should not be permitted to preclude copyright protection for original expression in a copyrightable work. Although the court of appeals' reading did not lead it to an erroneous result in this case, we believe that, if left uncorrected, the court of appeals' interpretation could effectively nullify Congress' decision to treat computer programs as literary works eligible for protection under the Act.

The text, structure and history of the Copyright Act establish that computer programs are subject to copyright as literary works under the Act. At the time of enactment of the Act, Congress treated computer programs as literary works and Congress's amendments to the Act in 1980 were based on that premise.

As is the case with other works of authorship, however, the mere fact that a work is copyrighted does not mean that all parts of the work are protected by the copyright. As noted above, only the original expression in a computer program is protected, not ideas embodied in the work. We agree with the court of appeals' conclusion that the command hierarchy used by Lotus 1-2-3 is not subject to copyright protection. The command hierarchy is not, itself, a computer program; rather, it is a type of programming language, analogous to the rules of a game. It constitutes an abstract system

of rules that defines permissible sequences of symbols, expressed as keystrokes or otherwise, and assigns meaning to those sequences. The hierarchy itself does not instruct the computer to carry out any function; it is the structure of a language that allows the user and Lotus 1-2-3 to communicate. As such, it facilitates, but is not itself, expression. Therefore, it cannot be afforded copyright protection by Section 102(a) which protects only original expression.

The Court should affirm the court of appeals' judgment vacating the injunction that had enjoined respondent from distributing any version of its product capable of interpreting and carrying out user commands expressed in the Lotus 1-2-3 macro language. Whether respondent's emulation mode involved copying of specific words (or other elements of the Lotus 1-2-3 interface beyond the command hierarchy) that constitutes infringement is not properly before the Court at this juncture. See, supra, note 5. We offer no view on those issues beyond suggesting that, if petitioner wishes to pursue such claims, the lower courts should address them in the first instance.

## ARGUMENT

### I. COPYRIGHT PROTECTS ORIGINAL EXPRESSION, NOT IDEA; SECTION 102 OF THE COPYRIGHT ACT OF 1976 CODIFIED THAT DISTINCTION

#### A. Section 102 of the Copyright Act extends protection only to original expression in a copyrightable work, not to ideas embodied in the work

"The primary objective of copyright is not to reward the labor of authors, but '[t]o promote the Progress of Science and useful Arts.' Art. I, §8, cl.8. * * * To this end, copyright assures authors the

right to their original expression, but encourages others to build freely upon the ideas and information conveyed by a work. * * * This principle, known as the idea/expression or fact/expression dichotomy, applies to all works of authorship." Feist Publications, Inc. v. Rural Telephone Serv. Co., 499 U.S. 340, 349-350 (1991). Under this fundamental principle, ideas -- regardless of their originality, creativity, or importance and regardless of the effort involved in generating them -- cannot be copyrighted. "[N]o author may copyright facts or ideas. The copyright is limited to those aspects of the work--termed 'expression'--that display the stamp of the author's originality." Harper & Row, Publishers, Inc. v. Nation Enterprises, 471 U.S. 539, 547-548 (1985).

The seminal case applying the idea/expression dichotomy, if not its terminology, is Baker v. Selden, 101 U.S. 99 (1879). Selden had copyrighted several books on a system of bookkeeping. His books explained the bookkeeping system and contained illustrative accounting forms showing how the system is to be used in practice. The system effected the same result as double-entry bookkeeping, but "by a peculiar arrangement of columns and headings, present[ed] the entire operation * * * on a single page or on two pages facing each other in an account book." Id. at 102. Baker subsequently published account books "prepared upon the plan" set forth in Selden's books, although Baker arranged the columns differently and used different headings. Id. at 100-101, 104. The Court ruled that Baker did not infringe Selden's copyright because the copyright in Selden's book did not give Selden an exclusive right to use the bookkeeping system he described

and it "did not confer upon him the exclusive right to make and use account-books, ruled and arranged as designated by him and described and illustrated in said book." Id. at 107. The Court distinguished between Selden's book that explained the system and was entitled to copyright, and the accounting system which it was intended to illustrate. The Court explained that any exclusive right to use the system was "the province of letters patent, not of copyright." Id. at 102. The Court held, moreover, that when a book teaches a useful system that "cannot be used without employing the methods and diagrams used to illustrate the book, or such as are similar to them, such methods and diagrams are to be considered as necessary incidents to the art, and given therewith to the public," for purposes of "practical application." Id. at 103.

The Court unequivocally reaffirmed the idea/expression dichotomy 75 years later in Mazer v. Stein, 347 U.S. 201 (1954). The Court explained that "[u]nlike a patent, a copyright gives no exclusive right to the art disclosed; protection is given only to the expression of the idea--not the idea itself." Id. at 217. The Court thereby reinforced the fact that the idea/expression dichotomy is the well-established dividing line for determining copyrightability.

Congress wrote against the backdrop of this settled understanding of copyright law when, after years of study, it enacted the Copyright Act of 1976, 17 U.S.C. 101 et seq., to replace the Copyright Act that had governed since 1909, Pub. L. No. 94-553, 90 Stat. 2541 (1909). Section 102 of the 1976 Act provides:

> (a) Copyright protection subsists, in accordance with this title, in original works of authorship fixed in any

> tangible medium of expression, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device. Works of authorship include the following categories:
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> (1) literary works;
> (2) musical works, including any accompanying words;
> (3) dramatic works, including any accompanying music;
> (4) pantomimes and choreographic works;
> (5) pictorial, graphic and sculptural works;
> (6) motion pictures and other audiovisual works;
> (7) sound recordings; and
> (8) architectural works.
>
> (b) In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.

17 U.S.C. 102. By enacting Section 102, Congress intended to codify the fundamental idea/expression dichotomy. As this Court explained:

> Congress emphasized that § 102(b) did not change the law, but merely clarified it: "Section 102(b) in no way enlarges or contracts the scope of copyright protection under the present law. Its purpose is to restate * * * that the basic dichotomy between expression and idea remains unchanged."

Feist Publications, 499 U.S. at 356, quoting H.R. Rep. No. 1476, 94th Cong., 2d Sess. 57 (1976) (1976 House Report); S. Rep. No. 1473, 94th Cong., 2d Sess. 54 (1976).

B. The court of appeals' interpretation of "method of operation" for purposes of Section 102(b) of the Act is inconsistent with the idea/expression dichotomy underlying the Act.

The court of appeals misconstrued Section 102(b) by failing to interpret that provision in the context of the long-established idea/expression dichotomy that determines what is subject to copyright protection. The court appeared to interpret Section 102(b) as a bar to copyright protection for an expressive work of authorship if the

work expresses a method operation. Thus, the court erred in that it interpreted "method of operation" as used in Section 102(b) to reach both idea and expression. But, as demonstrated above, Congress intended through Section 102(b) to exclude from copyright protection ideas and similarly abstract concepts such as methods and processes, but not to preclude copyright for the original expression in which such an idea is presented.*

To the extent the court of appeals' analysis can be read to be inconsistent with the idea/expression dichotomy, it should be rejected. By failing to give effect to Congress's intent to protect expression while leaving idea unprotected, it raised unjustified doubts about the copyright status of any work of authorship that could be characterized as "procedure, process, system, [or] method of operation." Other courts of appeals have recognized correctly that Section 102(b) codified the idea/expression dividing line for copyrightability. Computer Associates International, Inc. v. Altai, Inc., 982 F.2d 693, 703 (2d Cir. 1992) (idea/expression dichotomy "has been incorporated into the governing statute" in Section 102(b)); Whelan Assocs., Inc. v. Jaslow Dental Lab., Inc., 797 F.2d 1222, 1234 (3d Cir. 1986) ("§ 102(b) was intended to express the idea-expression dichotomy"), cert. denied, 479 U.S. 1031 (1987); M. Kramer Mfg. Co. v. Andrews, 783 F.2d 421, 434 (4th Cir. 1986) (Section 102(b) intended as

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* It would appear that Congress adopted the term "methods of operation" from the Court's use of the term in Baker v. Selden in the course of its explanation that "[t]he copyright of a work on mathematical science cannot give to the author an exclusive right to the methods of operation which he propounds." 101 U.S. at 103. The Court clearly would have accorded copyright protection to the expression in a book that described the methods, however.

codification of principle that copyright protection extends only to expression of the idea, not the idea); Apple Computer, Inc. v. Franklin Computer Corp., 714 F.2d 1240, 1252-1253 (3d Cir. 1983) ("expression/idea dichotomy is now expressly recognized in section 102(b)); Apple Computer, Inc. v. Microsoft Corp., 35 F.2d 1435, 1443 & n.11 (9th Cir. 1994), cert. denied, 115 S. Ct. 1176 (1995) (Section 102 codifies idea/expression principle of Baker v. Selden); Cf. Gates Rubber Co. v. Bando Chem. Indus., 9 F.3d 823. 836-837 (10th Cir. 1993) (Section 102(b) codified idea-expression dichotomy and process-expression dichotomy).

## II. COMPUTER PROGRAMS ARE SUBJECT TO COPYRIGHT PROTECTION AS LITERARY WORKS

The court of appeals correctly recognized that Congress intended to provide copyright protection to computer programs by treating them as literary works for purposes of Section 102(a) of the Act. Pet. App. 11a n.5. But, the court of appeals' misinterpretation of "method of operations," discussed above, rendered the court's opinion internally inconsistent and raised doubts about the copyrightability of computer programs because any computer program, by definition, is a means by which a computer is operated. See Pet. App. 25a (Boudin, J., concurring). Any suggestion that computer programs are not subject to copyright protection as literary works would be inconsistent with the text, structure and history of the Act.

### A. Congress considered computer programs subject to copyright as literary works when it enacted the Copyright Act of 1976.

It is clear that, at the time Congress enacted the Copyright Act of 1976, computer programs were considered copyrightable as literary

works. Section 102(a), set forth in full above, specifies that copyright protection "subsists * * * in original works of authorship," and defines "works of authorship" to include several categories, the first being "literary works." In Section 101 of the Act, Congress defined "literary works" to mean

> works, other than audiovisual works, expressed in words, numbers, or other verbal or numerical symbols or indicia, regardless of the nature of the material objects, such as books, periodicals, manuscripts, phonorecords, film, tapes, disks, or cards, in which they are embodied.

17 U.S.C. 101, para. 20 (emphasis added). A computer program falls directly within that definition as a work expressed in words, numbers or other symbols that is embodied in a book, tape or disk. Any possible doubt regarding the scope of that unambiguous definition was resolved by the accompanying House Report that explicitly stated that "the term 'literary works'" includes "computer data bases and computer programs to the extent that they incorporate authorship in the programmer's expression of original ideas, as distinguished from the ideas themselves." 1976 House Report 1476.

Elsewhere in the Act, Congress addressed the question of how computer use of a work affects the exclusive rights of the copyright owner with respect to those uses. See Pub. L. No. 94-553, 90 Stat. 2565 (1976) (Section 117 as initially enacted). Congress made clear that computer use of a work would not afford any greater or lesser rights to the owner of a copyright in the work. In discussing this provision, the House Report explained that the "Commission on New Technological Uses [CONTU] is, among other things, now engaged in a thorough study of the emerging patterns in this field and it will, on

the basis of its findings, recommend definitive copyright provisions to deal with the situation." House Report 116. The Report emphasized, however, that, "[w]ith respect to the copyright-ability of computer programs, the ownership of copyrights in them, [and] the term of protection," the new Copyright Act of 1976 would apply. Ibid.

B. Congress's amendment of the Copyright Act in 1980 reaffirmed that computer programs are subject to copyright protection as literary works.

In 1980, Congress amended the Copyright in two respects, both of which reaffirm the conclusion that the Act authorizes copyright protection for computer programs. Congress added to the Act a definition of "computer program" that states:

> A "computer program" is a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result.

17 U.S.C. 101, para. 41; see Pub. L. No. 96-517, § 10(a), 94 Stat. 3028 (1980). Congress also enacted a new Section 117 "in regard to copyrights on computer programs." See Pub. L. No. 96-517, § 10(b), 94 Stat. 3028 (1980); H.R. Rep. No. 1307, Pt. 2, 96th Cong., 2d Sess. 16 (1980). Section 117, as amended in 1980, provides that notwithstanding Section 106 of the Act which affords copyrights owners certain exclusive rights such as copying of their work, "it is not an infringement for the owner of a copy of a computer program" to make an additional copy of the program so long as the additional copy is made for "archival purposes" or is "an essential step in the utilization of the computer program." 17 U.S.C. 117. The 1980 amendment to Section 117 was thus directly premised on the belief that computer programs are subject to copyright. The language of Section 117, "by carving

out an exception to the normal proscriptions against copying, clearly indicates that programs are copyrightable and are otherwise afforded copyright protection." Apple Computer, Inc. v. Franklin Computer Corp., 714 F.2d at 1248.

Again, any possible doubt that Congress intended the Copyright Act to afford protection to computer programs was resolved by the history of the amendments. As the House Report accompanying the legislation explained, the two amendments "embod[ied] the recommendations of the Commission on new Technology Uses of Copyrighted Works [CONTU] with respect to clarifying the law of copyright of computer software." H.R. Rep. No. 1307, Pt. 1, 96th Cong., 2d Sess. 23. CONTU had been established in 1974, by an Act of Congress, to study the use of copyrighted works in new technologies, including computers, and to provide a report detailing, inter alia, its findings and recommendations regarding changes in copyright law. Pub. L. No. 93-573, 88 Stat. 1873 (1974). In its Final Report, CONTU recommended that the copyright law be amended to "make it explicit that computer programs, to the extent that they embody an author's original creation, are proper subject matter of copyright." National Commission on New Technological Uses of Copyrighted Works, Final Report 1 (1979) (CONTU Report). As noted above, the 1980 amendments were intended to embody CONTU's recommendations.[9]

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[9] In addition, Congress has ratified certain international trade agreements that commit member countries to afford copyright protection to computer programs as literary works. See Pub. L. No. 130-182, xxx Stat. xxxx (1993); Pub. L. No. 103-826, xxx Stat. xxx (1994). Congress's ratification of those agreements bolsters the conclusion that Congress interpreted the Copyright Act of 1976 to permit such copyright protection.

In light of the clear congressional intent, rooted in the text, structure and history of the Copyright Act, courts of appeals have found that "the copyrightability of computer programs is firmly established." Williams Electronics, Inc. v. Artic International, Inc., 685 F.2d 870, 875 (3d Cir. 1982); see also Computer Assoc. Int'l v. Altai, Inc., 982 F.2d at 702; Whelan Assoc., Inc. v. Jaslow Dental Laboratory, Inc., 797 F.2d at 1234; M. Kramer Mfg. Co. v. Andrews, 783 F.2d at 432; Apple Computer v. Franklin Computer Corp., 714 F.2d at 1251, 1253-1254. This Court should rule likewise.

## III. THE COMMAND HIERARCHY USED BY LOTUS 1-2-3 IS NOT PROTECTED BY PETITIONER'S COPYRIGHT BECAUSE IT IS NOT, ITSELF, ORIGINAL EXPRESSION SUSCEPTIBLE TO COPYRIGHT UNDER SECTION 102(a) OF THE ACT

### A. Computer programs are not exempted from the general rule of Section 102 that copyright protects expression, not ideas.

As this Court has recognized, "[t]he mere fact that a work is copyrighted does not mean that every element of the work may be protected." Feist Publications, 499 U.S. at 348. To determine what aspects of a copyrighted work are protected, the focus is on where to "fix that boundary" between protectable original expression and unprotectable idea. Nichols v. Universal Pictures Corp., 45 F.2d 119, 121 (2d Cir. 1930), cert. denied, 282 U.S. 902 (1931) (Hand, J.). As with any other work subject to copyright under Section 102(a), only the original expression of a computer program is protected by the program's copyright. Congress did not intend to change that fundamental principle when it came to computer programs. The House Report accompanying the 1976 Act addressed the issue directly:

> Some concern has been expressed lest copyright in computer programs should extend protection to the

> methodology or processes adopted by the programmer, rather than merely to the "writing" expressing his ideas. Section 102(b) is intended, among other things, to make clear that the expression adopted by the programmer is the copyrightable element in a computer program, and that the actual processes or methods embodied in the program are not within the scope of the copyright law.

1976 House Report 56.

Drawing the line between idea and expression in a computer program "is a tricky business." Altai, 982 F.2d at 704. In its Final Report, CONTU observed that "the distinction between copyrightable computer programs and uncopyrightable processes or methods of operation does not always seem to 'shimmer with clarity.'" CONTU clarified the distinction by reference to the Baker v. Selden ruling that use of a system does not infringe the copyright in the description of the system. CONTU further explained:

> The "idea-expression identity" exception provides that copyrighted language may be copied without infringing when there is but a limited number of ways to express a given idea. This rule is the logical extension of the fundamental principle that copyright cannot protect ideas. In the computer context, this means that when specific instructions, even though previously copyrighted, are the only and essential means of accomplishing a given task, their later use by another will not amount to an infringement.

CONTU Report 20 (emphasis added).

The lower courts have reached somewhat of a consensus on an analysis that is helpful in the effort to discern the idea/expression line in cases involving computer programs. The commonly applied approach was first articulated in Computer Assocs. Int'l v. Altai, Inc., 982 F.2d. 693 (1992). The Altai court recognized "that computer technology is a dynamic field which can quickly outpace judicial decisionmaking," and took into account the utilitarian functions of

computer code as well as the fact that a computer program usually encompasses more than one idea. According to the Altai approach, a court must engage in a process to identify the unprotected ideas before comparing the works to identify copying of protected material. The Altai approach is described as an abstraction-filtration-comparison three-step analysis. The court determines the unprotected ideas at the abstraction step. At the filtration step, this unprotected material is removed from the analysis, along with material that is unprotected for other reasons, such as public domain or merger. At the third step, the court compares the remaining protected expression to determine infringement. Courts have adapted the approach to a variety of situations. See Engineering Dynamics, Inc. v. Structural Software, Inc., 26 F.3d 1335 (5th Cir. 1994); Gates Rubber Co. v. Bando Chem. Indus, 9 F.3d 832 (10th Cir. 1993); Autoskill, Inc. v. National Educ. Support Sys., 994 F.2d 1476, 1495 n.23, cert. denied, 114 S. Ct. 307 (10th Cir. 1993); Atari Games Corp. v. Nintendo of Am., Inc., 975 F.2d 832 (Fed. Cir. 1992); Brown Bag Software v. Symantec Corp., 960 F.2d 1465, 1477 (9th Cir.), cert. denied, 113 S. Ct. 198 (1992).

The court of appeals below declined to apply the Altai analysis because it believed that analysis was not helpful in a case involving literal copying, rather than copying of nonliteral elements of the copyrighted work. Pet. App. 14a. That distinction appears to be a matter of semantics, however, because the court's analysis appears consistent with Altai. Because the court found the command hierarchy unprotectable, it filtered that material out of the analysis. Because

the other features of the user interface were not before the court of appeals, see note 5, supra, the court had nothing left to compare and found no infringement. See Mark A. Lemley, Convergence in the Law of Software Copyright?, 10 High Tech. L.J. 1, 22 (1995). The district court believed that its analysis was consistent with the Altai approach. The district court erred, however at the first step because it did not correctly determine what constituted the ideas of the program at its various levels of abstraction. Because we agree with the court of appeals that the command hierarchy is not subject to copyright protection, application of the Altai approach would lead us to the conclusion that respondent's key reader did not infringe and likewise for the emulation mode, but only to the extent the copying alleged was limited to the command hierarchy.

B. The command hierarchy used by Lotus 1-2-3 to identify the functions evoked by particular sequences of computer keystrokes constitutes an idea not subject to copyright.

Respondent's key reader was able to interpret macros written in the Lotus 1-2-3 macro language by the only means possible, by using the Lotus 1-2-3 command hierarchy structure -- an abstract conceptual organization that gives meaning to single keystrokes according to the order in which the user enters them. Pet. App. 39a. As the district court acknowledged:

> If a program did not have a representation of the 1-2-3 menu hierarchy somewhere within the program code (or in a file that is used by the code), then there is no way that the program could understand that "rfc" refers to a path through a menu tree to the specific executable operation that changes a cell or cells [sic] appearance to monetary units (i.e., a path through the range and format menus to the currency leaf).

Ibid. In other words, the copying at issue here was respondent's incorporation of the elements necessary to allow Quattro to "understand" certain commands a user entered, without regard to the form those elements took in respondent's program or any other similarity between literal or nonliteral elements of the Lotus 1-2-3 and Quattro computer programs. So understood, the command hierarchy constitutes the structure of a language.[10] The keystroke commands form the language's vocabulary and the hierarchy defines its syntax

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[10] In its Paperback decision, the district court declined to analyze the 1-2-3 user interface as a language. Pet. App. 242a-244a. The court noted that the defendant had cited no precedent supporting the contention that languages are not copyrightable. Pet. App. 244a. But there are also no prior cases holding that languages are copyrightable. The case of Reiss v. National Quotation Bureau, Inc., 276 F. 717 (S.D.N.Y. 1921), to which the court referred, considered only the question whether a list of meaningless coined words, with no syntax, was a "writing." Moreover, the Paperback case involved alleged copying of a much larger portion of the Lotus 1-2-3 interface, beyond the command hierarchy, and the court therefore understood Paperback to use the term "language" much more broadly than we do here. Our argument turns on the nature of the command hierarchy at issue in this particular case and not on use of the term "language" which is susceptible to a range of meanings. See, e.g., Webster's Third International Dictionary 1270 (defining "language" as, inter alia, "a systematic means of communicating ideas or feelings by the use of conventionalized signs, sounds, gestures or marks having understood meaning" and "an artificially constructed primarily formal system of signs and symbols (as symbolic logic) including rules for the formation of admissible expressions and their transformations"); Donald Spencer, Webster's New Word Dictionary of Computer Terms 323 (5th Ed. 1994) (defining "language" as "[s]et of rules, representations and conventions used to convey information. A way of passing instructions to the computer other than through direct input of number codes."); J.E. Sammet, "Programming Languages" 1228-1229 in Encyclopedia of Computer Science and Engineering (Anthony Ralston, ed., 1983) ("A programming language is a set of characters and rules for combining them," which has characteristics that distinguish "programming languages" from other languages); J.A.N. Lee, "Programming Linguistics" 1232-1233 in Ralston, supra ("Languages for communication between any two systems, be they human or mechanical, can be described by three intertwining concepts: syntax, semantics, and pragmatics," but because computer languages are artificial languages, "there exists no difference between the semantics and the pragmatics.")

and semantics. See Stern, supra, at 327-330.[11]

The command hierarchy is not a computer program because the hierarchy, i.e. the rules, do not instruct the computer to perform any operation or "bring about a certain result." 17 U.S.C. 101. Rather, statements that users write in the language according to those rules -- i.e., macros -- constitute such instructions.

The Lotus 1-2-3 macro language's set of rules (i.e. the command hierarchy) governs both the writing of statements in that language and the interpretation of those statements once they are written. Any particular computer program that will interpret programs (macros) written in the language defined by the command hierarchy must contain a representation of that abstract set of rules. This is necessary whether that computer program be a spreadsheet, a separate program that translates Lotus 1-2-3 macros into the language defined by the different command hierarchy of a different spreadsheet program, or a program that simply annotates the text of a macro with an English language rendition of the cryptic macro notation, so as to make it more understandable to humans and facilitate subsequent modifications. See Pet. App. 39a; Melville B. Nimmer and David Nimmer, 3 Nimmer on Copyright § 13.03[F], at 13-144.4 n.336.10 (1995) (district court's "ultimate holding would render infringing any conceivable macro translation device").

Rather than "the expression adopted by the programmer [which] is

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[11] In fact, the command hierarchy does not define the entire Lotus macro language. The command hierarchy does not encompass some of the vocabulary of the language, for example, the commands that cause a macro to pause. Thus, the key reader was not able to translate the more sophisticated macros that were written in Lotus 1-2-3.

the copyrightable element in a computer program," the set of rules, like an algorithm, is one of "the actual processes or methods combined in the program [which] are not within the scope of the copyright law." 1976 House Report 57. It is the "art" that Baker v. Selden made clear is unprotected despite copyright protection for the expression of that art.

Treating the Lotus 1-2-3 macro language, i.e. the command hierarchy, as an unprotectable idea is consistent with the general industry practice that existed prior to petitioner's instigation of the related Paperback litigation. See Note, Copyright Protection for Computer Languages: Creative Incentive or Technological Threat?, 39 Emory L.J. 1294, 1294 (1990) ("until 1987 no one had ever seriously considered claiming ownership to a computer language"); see Stern, supra, at 322 ("Until quite recently * * * [t]he general assumption was that computer programming languages are not subject to copyright protection because they were unprotectable 'ideas,' rather than protectable 'expressions' of ideas.") (footnotes omitted).[12]

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[12] Books setting forth computer languages are common. See, e.g., B. Kernighan & D. Ritchie, The C Programming Language (1978) (setting out the C programming language). Computer programmers copy such languages in order to program in the language. As one commentator has explained:

> The art of programming in C is a nonliteral element of the Kernighan and Ritchie book only to the extent that the art of Seldenian bookkeeping is a nonliteral element of Selden's book. The art of programming in the C language can be a protected nonliteral element of their book only by overruling the doctrine of Baker v. Selden.

Stern, supra, at 352. To program in C, one must know the defining elements of the C language, that is, its vocabulary, syntax, and semantics; the book details those. Use of the C language to instruct a computer requires a means of translating statements in the C language --

(continued...)

Lower court decisions do not directly address the copyrightability of languages as such, but they provide some support for viewing the rules of a language as uncopyrightable idea.[13] For example, it has long been established that systems of shorthand are not copyrightable, although works explaining the use of such systems may be protected. Brief English Systems v. Owen, 48 F.2d 555 (2d Cir.), cert. denied, 283 U.S. 858 (1931); Griggs v. Perrin, 49 F. 15 (N.D.N.Y. 1892). As the Second Circuit explained in Brief English

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[12](...continued)
source code -- into statements that the computer can understand. Creating the means to accomplish that translation by incorporating the defining elements of the language into a translation device (normally a computer program called a "compiler") should not, under Baker, infringe the copyright on the book, for it is necessary to practice the art. A copyright on the first C compiler, which necessarily contains within it an expression of the rules of C, should be understood to confer no protection for those rules, the language itself. Copyright on either literary work, the book or the computer program, should leave the language unprotected.

[13] In Synercom Tech. v. University Computing Co., 462 F. Supp. 1003, 1012-1014 (N.D. Tex. 1978), defendant's computer program accepted and used data stored in the format of plaintiff's copyrighted format cards. The court held that the ordering and sequencing of the data was idea, not expression. Since ordering and sequencing are the rules that give meaning to digits punched in cards, Synercom implies that a language is uncopyrightable idea, not expression. Engineering Dynamics, Inc. v. Structural Software, Inc., 26 F.3d 1335 (5th Cir. 1994), rejected aspects of Synercom, but not this one. Engineering Dynamics involved the formats at issue in Synercom, along with others, 26 F.3d at 1339, but no copyright protection for individual formats was claimed, only protection for the sequence and organization of the formats as a whole. Id. The court, emphasizing that the formats are "quasi-textual [and] consist of a series of words and a framework of instructions that act as prompts for the insertion of relevant data," id. at 1342, 1344, reversed a finding that the formats were unprotectable and remanded for further determinations. This suggests that the court would not protect a bare language. The court later explained, 46 F.23 at 410, that its opinion "cannot properly be read to extend * * * to the practice employed by users of programs of analyzing application programs to 'read' the file formats of other programs." This explanation is consistent with Synercom.

Systems, "[t]here is no literary merit in a mere system of condensing written words into less than the number of letters usually used to spell them out. Copyrightable material is found, if at all, in the explanation of how to do it."[14]

Courts also consider other sets of rules, such as the rules of games, to be unprotectable idea, although particular expressions of those rules, and the actual implementation of those rules in playable games, may be protectable. "[N]o copyright may be obtained in the system or manner of playing a game." M. Nimmer & D. Nimmer, 1 Nimmer on Copyright § 2.18[H][3][a], 2-204.18 (1995). Copyright in the written instructions for a game, moreover, "would not * * * permit a monopoly in the method of play itself, as distinguished from the form of instructions for such play." Id. at 2-204.19. Some courts have

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[14] Petitioner contends that it has long been established that "commercial cable and telegraph codes * * * were copyrightable, when embodied in the tangible medium of code books necessary to decipher their meaning," Br. 24-25, but the cases it cites, id. at 25 n.37, do not support the copyrightability of languages. Hartfield v. Peterson, 91 F.2d 998 (2d Cir. 1937), appears to have involved a book listing code phrases, arranged alphabetically under headings. Id. at 999. No issue of the copyrightability of such books, if original, was raised. The issue was whether the defendant had copied from plaintiff's book, or whether the similarities resulted from the use of common sources. The court, treating plaintiff's book as a compilation, emphasized that the compilation copyright protected the whole work, id. at 1000, and defendant was not free to copy from it. There is no indication that the court intended to protect rules of encoding and decoding, or the structure of a language. In American Code Co. v. Bensinger, 232 F. 829 (2d Cir. 1922), plaintiff claimed to have added a column of code words to a work uncopyrighted in the United States, and the court found the list copyrightable. Id. at 833. It saw little difficulty in preliminarily enjoining defendant's distribution of photo-lithographic copies of plaintiff's book. In Hartfield v. Herzfeld, 60 F. 599 (S.D.N.Y. 1932), the defendant waived the question of infringement, and the only issue before the court was whether the plaintiff had authorized defendant's copying. None of these cases analyze the copyrightability of a language according to the idea/expression dichotomy.

held that the wording of certain game and contest instructions were not protected by copyright "on the ground that the subject matter was such that only a limited number of forms of expression were possible, so that to prohibit copying would make it possible to obtain a monopoly on the system to which the instructions pertained." Ibid., citing Landsberg v. Scrabble Crossword Game Players, Inc., 736 F.2d 485 (9th Cir.), cert. denied, 469 U.S. 1037 91984); Affiliated Hosp. Prods., Inc. v. Merdel Game Mfg., 513 F.2d 1183 (2d Cir. 1975); Morrissey v. Procter & Gamble Co., 379 F.2d 675 (1st Cir. 1967).[15]

In sum, the rules that allow communication with a computer in the Lotus 1-2-3 language, like the rules that allow the playing of a particular game or the practice of a particular accounting system, are abstract ideas that may be expressed in copyrightable form, but are not themselves copyrightable expression under Section 102(a). This analysis preserves the public's right freely to use the rules to create original expression and serves the fundamental policy

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[15] In Atari, Inc. v. North American Philips Consumer Electronics Corp., 672 F.2d 607 (7th Cir.), cert. denied, 459 U.S. 880 (1982), the court considered whether the audio-visual copyright on the PAC-MAN video game had been infringed. In light of the idea-expression dichotomy of Section 102(b), the court concluded that "copyright protection does not extend to games as such." Id. at 615. It found that PAC-MAN "can be described accurately in fairly abstract terms, much in the same way as one would articulate the rules to such a game," holding that "[t]he audio component and the concrete details of the visual presentation constitute the copyrightable expression of that game 'idea.'" Id. at 617. Accord, M. Kramer Mfg. Co. v. Andrews, 783 F.2d 521, 435 (4th Cir. 1986) ("[s]trictly speaking, the game, the idea of the game, itself is not protected"); see also Morrissey v. Procter & Gamble, Inc., 379 F.2d 675, 678 (1st Cir. 1967) (substance of sweepstakes contest not copyrightable); cf. Crume v. Pacific Mut. Life Ins. Co., 140 F.2d 182 (7th Cir. 1944) (holder of copyright on pamphlets disclosing form of reorganization plan recognizes defendant's right to use the plan, claiming infringement only as to words used).

considerations underlying the Copyright Act. "[T]he Copyright Act must be construed in light of [its] basic purpose" of "stimulat[ing] artistic creativity for the general public good." Twentieth Century Music Corp., 422 U.S. at 156. In distinguishing idea from expression, "the line must be a pragmatic one, which also keeps in consideration 'the preservation of the balance between competition and protection reflected in the patent and copyright laws.'" Apple Computer, Inc. v. Franklin Computer Corp., 714 F.2d at 1253 (citation omitted).

Languages, in the world of computers as well as elsewhere, are building blocks. They dictate the manner in which humans communicate commands to computer programs, whether interactively at the keyboard or through macros. Thus, the competitive consequences of construing the copyright law to protect the structure of a language may be substantial. Consumers make an investment in learning a language and in developing the macros they need to employ it effectively. If the rules of a language are protected by copyright, the public is deprived of a building block needed for advancing the art efficiently through the competitive process. Users may be "locked-in" and will tolerate price increases rather than switch products, thus impeding technology advancements. Cf. Eastman Kodak Co. v. Image Technical Services, Inc., 504 U.S. 451, 476 (1992).

In enacting Section 102(b) of the Copyright Act, Congress made the choice to place limits on copyright protection in order to promote the free exchange and wide availability of ideas. Interpreting Section 102(b) to deny petitioner copyright protection for the Lotus 1-2-3 command hierarchy is faithful to Congress's purposes.

## CONCLUSION

The judgment of the court of appeals vacating the district court injunction should be affirmed. To the extent petitioner may still be able to pursue claims related to alleged copying of other aspects of the Lotus 1-2-3 interface that are not currently before the Court, a remand for further proceedings may also be appropriate.

Respectfully submitted.

DECEMBER 1995

**UNITED STATES DEPARTMENT OF COMMERCE**
**Patent and Trademark Office**
ASSISTANT SECRETARY AND COMMISSIONER
OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

# FACSIMILE TRANSMITTAL LETTER

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December 5, 1995

Drew S. Days, III
Solicitor General
c/o Beth S. Brinkmann
Office of the Solicitor General
Department of Justice
Washington, DC 20530

VIA FACSIMILE
(202) 514-3648

RE: Lotus Dev. Corp. v. Borland Int'l
49 F.3d 807, 34 USPQ2d 1014 (1st Cir. 1995)
Supreme Court Docket No. 942003

Dear Mr. Days:

We have reviewed the draft amicus curiae brief in support of respondent Borland. As we indicated to Mr. Wallace at the November 1, 1995, meeting, and to you at the November 30, 1995, meeting, we do not agree with Antitrust's conclusion that the "Lotus 1-2-3" menu command hierarchy is a computer programming language and, therefore, unprotectible under the copyright law.

Testimony from "Lotus 1-2-3" developer Kapor pointed out the care and creativity that was exercised in selecting and arranging the particular terms that comprise the menu command hierarchy. The First Circuit accepted the district court's finding that the "Lotus 1-2-3" menu command hierarchy contains original expression. Borland admits they copied this original expression.

Our views are more fully expressed in our October 11, 1995 memorandum to Mr. Kopp, and our November 1 and November 22, 1995 letters to Mr. Wallace. The critical issues in this case are intellectual property issues, not antitrust issues. Thus, the Patent and Trademark Office and the Copyright Office are the agencies whose views should be adopted as those of the U.S. government.

We all agree that the First Circuit's reasoning was contrary to the copyright law, and that the Supreme Court should be apprised of the First Circuit's legal errors. Professional organizations representing intellectual property experts, such as the American Intellectual Property Law Association, have already well-briefed the Supreme Court on these legal errors. In addition, it is our understanding that amicus briefs will be filed on behalf of Borland. Thus, the Supreme Court should be

fully informed on all issues in the case, obviating the filing of a government brief.

We vehemently oppose the filing of this or any amicus brief on behalf of Borland. The filing of such a brief would seriously jeopardize copyright protection for computer programs.

Sincerely,

Lawrence J. Goffney
Acting Deputy Secretary of
Commerce and Deputy Commissioner
of Patents and Trademarks

cc: Jack Quinn
Counsel to the President

W. Bowman Cutter
Deputy Assistant to the President
for Economic Policy
N.E.C.

Marybeth Peters
Register of Copyrights

Office of the Deputy Attorney General
Washington, D.C. 20530

# FACSIMILE COVER SHEET

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ADDITIONAL INFORMATION:

NUMBER OF PAGES INCLUDING COVER SHEET: 36 37

U. S. Department of Justice

Office of the Solicitor General

LOTUS

*Washington, D.C. 20530*

December 5, 1995

To: Copyright Office
Patent and Trademark Office
Antitrust Division
Civil Division

From: Beth ~~Brinkmann~~

Re: Lotus v. Borland

Attached is a draft brief I have produced. Because of the short timeframe, the Solicitor General has asked me to circulate it to you prior to his review or Deputy Solicitor General Wallace's review. The Solicitor General asks that you make every effort to address the substance of the draft with the expectation that we will be filing a brief that generally supports respondent.

Please, return all comments to me by 3 p.m. today. I apologize for the short turnaround time. I will be at court this morning and into the early afternoon. I look forward to your comments, corrections, suggests.

Finally, please remember that the draft is intended for internal review only.

2 Pts talking about imp in int'l context of sharp protection for intellectual property.

No. 94-2003

IN THE SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1995

LOTUS DEVELOPMENT CORPORATION, PETITIONER

v.

BORLAND INTERNATIONAL, INC.

ON WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE FIRST CIRCUIT

# BRIEF FOR THE UNITED STATES AS AMICUS CURIAE SUPPORTING RESPONDENT

Department of Justice
Washington, D.C. 20530
(202) 514-2217

## QUESTION PRESENTED

Whether the command hierarchy used by petitioner's computer program to identify the functions evoked by computer keystrokes when used in particular sequences, is an "idea, procedure, process, system, method of operation, concept, principle, or discovery" and therefore excluded from copyright protection by Section 102(b) of the Copyright Act, 17 U.S.C. 102(b).

IN THE SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1995

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No. 94-2003

LOTUS DEVELOPMENT CORPORATION, PETITIONER

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ON WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE FIRST CIRCUIT

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# BRIEF FOR THE UNITED STATES AS AMICUS CURIAE SUPPORTING RESPONDENT

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## INTEREST OF THE UNITED STATES

This case presents the question whether the command hierarchy used by petitioner's computer program to identify the functions evoked by computer keystrokes when used in particular sequences, is an "idea, procedure, process, system, method of operation, concept, principle, or discovery" and therefore excluded from copyright protection by Section 102(b) of the Copyright Act, 17 U.S.C. 102(b). The United States has a substantial interest in the resolution of the question presented. The Register of Copyrights has the responsibility to register copyrights for works that she determines constitute copyrightable subject matter, including original expression in

computer programs, and which meet certain other formal requirements of the Act. See 17 U.S.C. 410(a). The standards for copyright protection embody a balance struck between protecting private ownership of expression as an incentive for creativity and enabling the free use of basic building blocks for future creativity to avoid monopolistic stagnation. See Twentieth Century Music Corp. v. Aiken, 422 U.S. 151, 156 (1975). The United States' interests in ensuring the proper preservation of that balance also reflect the fact that it has primary responsibility for enforcing the antitrust laws, which establish a national policy favoring economic competition as a means to advance the public interest.

STATEMENT

1. Petitioner markets a copyrighted computer program known as Lotus 1-2-3.[1] Lotus 1-2-3 is an electronic spreadsheet that can perform operations on data organized and displayed in rows and columns like those of a paper spreadsheet. Pet. App. 230a-231a. The spreadsheet user tells Lotus 1-2-3 what functions to perform by entering commands through a keyboard. Id. at 129a. Petitioner organized Lotus 1-2-3's function commands by using

> a system of menus, each menu consisting of less than a dozen commands, arranged hierarchically, forming a tree in which the main menu is the root/trunk of the tree and submenus branch off from higher menus, each submenu being linked to a higher menu by operation of a command * * * so

[1] Petitioner's original complaint alleged infringement of its copyright in Lotus 1-2-3 version 2.0 and earlier versions. The district court examined version 2.0 and version 2.01, a copyrighted derivative work. Pet. App. 81a. Respondent did not contend that any differences between the programs had a bearing on issues in this case. Ibid. We refer to petitioner's products generically as Lotus 1-2-3.

> that all the specific spreadsheet operations available in Lotus 1-2-3 are accessible through the paths of the menu command hierarchy.

Ibid. A user causes Lotus 1-2-3 to display menus of commands by striking the "/" key. A user may select function commands from a menu only while that menu is displayed. To select a command, a user either strikes the key corresponding to a highlighted letter in the desired command (usually the first letter of the command) or uses a cursor to highlight the command in the menu and strikes the enter key. Id. at 232a.

The command to which a particular keystroke corresponds depends on the menu displayed at the time the letter is entered. The function evoked by a sequence of keystroke commands depends on the order in which the commands are entered, i.e. on the structure of the command hierarchy. For example, in the sequence "/FR," "F" stands for the File command which invokes the File submenu and "R" stands for the Retrieve command that is in the File submenu. But, in the sequence "/RF," "R" stands for the Range command which invokes the Range submenu and "F" stands for the Format command that is contained in the Range submenu. Thus, "/FR" retrieves a file, and "/RF" invokes the Format submenu. See Pet. App. 110a-111a ("C" may invoke Currency or Copy function, depending on the other commands in the sequence). In order to avoid "going step-by-step through the same sequence of commands each time there is a need to perform a particular function," a user can store "a sequence of command terms as a 'macroinstruction,' commonly called a 'macro,' and then, with one command stroke that invokes the macro, cause the programmed computer to execute the entire

sequence of commands." Id. at 228a-229a.

Respondent, Borland International, Inc. ("Borland"), created and marketed a spreadsheet program known as Quattro.[2] Quattro uses a function command hierarchy that differs significantly from that used by Lotus 1-2-3. See Pet. App. 108a. In addition, however, Quattro was designed to enable users to select an emulation mode that uses the Lotus 1-2-3 command hierarchy. The emulation mode presents users with on-screen command menus that differ stylistically from the Lotus 1-2-3 on-screen command menus, but which contain the same commands in the same order as the Lotus 1-2-3 command menus (along with many additional commands not found in the Lotus 1-2-3 menus). Id. at 82a-84a. Thus, Quattro users could use Lotus 1-2-3 keystroke sequences to cause Quattro to perform functions. In addition, the emulation mode enabled Quattro to read and execute macros that had been written using the Lotus 1-2-3 command hierarchy.

2. a. Petitioner filed suit in July 1990, in the United States District Court for the District of Massachusetts, alleging that respondent's Quattro infringes petitioner's copyright in its Lotus 1-2-3 computer software program, and seeking damages and equitable relief. Pet. App. 145a-146a. The district court initially denied cross motions for summary judgment, Id. at 145a-182a, but invited the parties to file renewed motions for summary judgment compatible with the court's accompanying rulings.

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[2] Respondent marketed its initial program as Quattro and a later program as Quattro Pro, which has been released in several versions. Pet. App. 82a. Only certain versions contained the emulation mode, id. at 82a, and only certain versions contained the key reader, id. at 33a. We refer to respondent's products generically as Quattro.

After a hearing on the parties' renewed motions, the district court granted petitioner partial summary judgment. Pet. App. 106a-144a. The court ruled that there was no genuine issue of dispute that respondent copied the Lotus 1-2-3 menu commands and hierarchy and thus the macro language. See Id. at 108a-115a. The court held that those aspects of the Lotus 1-2-3 interface, taken together, are copyrightable. The court recognized that the command hierarchy is dictated to some extent by functional considerations and that the selection of functional operations is part of the idea of the program. It held, nonetheless, that the command hierarchy, i.e. the macro language, contains "identifiable elements of expression" not essential to every expression of the idea, system, process, procedure, or method and those elements played a substantial role in Lotus 1-2-3. Id. at 131a, see also id. at 115a-125a, 128a-140a.[3] The court ruled that Quattro infringes the Lotus 1-2-3 user interface in substantial part and that the extent to which functional concerns dictated the command arrangements would merely affect the scope of the relief to be determined at trial. Id. at 133a, 137a-139a.

The district court distinguished Baker v. Selden, 101 U.S. 99 (1879), as involving a system that depends on the use of copyrighted matter. Pet. App. 125a, 127a. The court also noted that it was not faced with the question whether respondent "is prohibited from reading

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[3] The district court noted the then-recent decision by the Second Circuit in Computer Assocs. Int'l v. Altai, Inc., 982 F.2d. 693 (1992), and stated that it believed the analysis it applied was compatible with the analysis announced in that case to determine the substantial similarity of copyrightable aspects of a computer program. Pet. App. 119a-121a.

and interpreting the macros that have been created by users of 1-2-3." Id. at 124a. The court indicated that had respondent "created a program that read users' 1-2-3 macros and converted them to macros for use in the Quattro programs' native modes, so that they could be interpreted, executed, modified, debugged, etc. by resort to [respondent's] command hierarchy, that would have presented a different case." Id. at 124a-125a. Finally, the court rejected respondent's defense of waiver and left its claims of laches and estoppel for later resolution. Id. at 140a-143a.

In light of the partial summary judgment ruling, respondent removed the emulation mode from Quattro. Pet. App. 33a. Respondent did not, however, remove the key reader which it had included along with the emulation mode in certain versions of Quattro. The key reader is not part of the emulation mode. Id. at 31a. It may be turned on while the user continues to use the Quattro menu command hierarchy. Ibid. The key reader allows Quattro to execute basic macros written in the Lotus 1-2-3 macro command language, but it does not display any function command menus containing those commands. See id. at 31a-33a. The key reader does not allow debugging or modification of Lotus 1-2-3 macros and does not permit execution of most Lotus 1-2-3 interactive macros. Id. at 8a & n.3. Petitioner supplemented its complaint, by leave of court, to allege that the key reader infringes its Lotus 1-2-3 copyright. Id. at 75a.

b. The district court held two bench trials on the remaining liability issues and issued two opinions -- the Phase I opinion addressed the emulation mode (Pet. App. 71a-105a) and the Phase II

opinion addressed the key reader (Id. at 29a-68a). The district court found that both the emulation mode and the key reader infringe petitioner's copyright.

In its Phase I opinion, the district court ruled that the only issue before it concerned the copying of menu commands and menu structure. Pet. App. 77a. The court again emphasized that "[a]s part of the 'idea,' the determination of the function of each executable operation is not protected by copyright law." Id. at 81a. It nonetheless ruled that the command hierarchy, i.e. the macro language, is protected by copyright law because that arrangement of the definition and identification of the operations contains expression. Ibid. It held that the Lotus 1-2-3 command hierarchy is just one of many possible expressions that are consistent with the functional considerations and executable operations in Lotus 1-2-3. Id. at 86a. The court ruled that creation of the command hierarchy required sufficient originality to justify protection under copyright. Id. at 90a-94a. The court rejected respondent's laches and estoppel defenses. Id. at 95a-105a.

In its Phase II opinion, the district court held that respondent's key reader infringes petitioner's copyright in Lotus 1-2-3. The court found that the key reader file "contains a virtually identical copy of the Lotus menu tree structure, but represented in a different form and with first letters of menu command names in place of the full menu command names." Pet. App. 35a. Respondent contended that "copying of the 1-2-3 menu tree structure and first letters of command names is a necessary part of any system for interpreting Lotus

1-2-3 macros" and thus does not constitute copyright infringement because systems are not susceptible to copyright protection. Id. at 36a. The court agreed that to interpret a Lotus 1-2-3 macro, a program must use the Lotus 1-2-3 menu structure, otherwise the program would have no means of understanding the macro, e.g. that "/RFC" refers to "a path through a menu tree to the specific executable operation that changes a cell or cells appearance to monetary units." Id. at 39a. The court rejected, however, respondent's contention that the Lotus 1-2-3 "menu tree structure and first letters of the menu commands constitute a 'system' or 'method,' as those terms are used in copyright law." Ibid. The court concluded that "the Lotus menu structure and organization (including the first letter of the commands, used to mark the structure) are part of the protectable expression found in the Lotus 1-2-3 program." Id. at 44a.[4] The court found that respondent's copy of the details of expression of the menu structure is virtually identical to petitioner's expression of the Lotus 1-2-3 menu structure, that any differences did not negate a finding of substantial similarity, and that the copied menu structure constitutes a substantial part of petitioner's expression thereby infringing petitioner's copyright. Id. at 46a-48a. The court rejected respondent's waiver, laches, estoppel, and fair use defenses.

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[4] The court declined to decide whether "copying of the Lotus menu structure for the purpose of one-time translation" that converts a macro into a different macro language is permissible under copyright law. Pet. App. 38a-39a, 46a. Quattro's key reader does not translate macros on a one-time basis, but instead translates the macro anew each time it is used so that the macro remains written in the Lotus 1-2-3 macro language. Id. at 38a.

Id. at 48a-68a. The district court entered an order permanently enjoining respondent from distributing versions of Quattro containing "in any portion, component or module thereof, a copy of the Lotus 1-2-3 menu commands and/or menu structure, in any form." Id. at 69a-70a.

3. The court of appeals reversed. Pet. App. 1a-28a. The court held that petitioner's Lotus 1-2-3 menu command hierarchy is not copyrightable.[5] The court noted that "[c]omputer programs receive copyright protection as 'literary works,'" id. at 11a n.5, and that respondent did not dispute that "Lotus has a valid copyright in Lotus 1-2-3 as a whole." Id. at 11a. The court ruled, however, that the part of the program that constitutes the Lotus 1-2-3 menu command hierarchy is uncopyrightable because it is a "method of operation" foreclosed from copyright protection by section 102(b) of the Copyright Act, 17 U.S.C. 102(b). The court explained that it understood "method of operation," as used in Section 102(b), to "refer

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[5] The court of appeals did not address the copyrightability of Lotus 1-2-3's screen displays (Pet. App. 16a n.10), long prompts (id. at 16a n.9), or program code (id. at 16a-17a n. 11). Petitioner initially had argued that Quattro copied the entire Lotus 1-2-3 user interface, that is the screen displays seen by the user, including on-screen messages that accompanied function commands (referred to as long prompts). In its preliminary ruling, however, the district court found that respondent did not copy the entire Lotus 1-2-3 interface. Pet. App. 7a. The parties stipulated pretrial that neither party would contend that the issue of whether respondent copied the long prompts was material to the resolution of the case. Id. at 7a n.2, 75a-76a. And petitioner did not "contend on appeal that the district court erred in finding that Borland had not copied other elements of Lotus 1-2-3, such as its screen displays." Id. at 10a. Petitioner never alleged that respondent had copied any of the "statements or instructions" constituting the actual program code of Lotus 1-2-3.

Because the court of appeals ruled that petitioner's command hierarchy is not copyrightable, that court also did not consider respondent's affirmative defenses, such as fair use. Pet. App. 22a.

to the means by which a person operates something, whether it be a car, a food processor, or a computer." Pet. App. 15a. The menu command hierarchy is an uncopyrightable method of operation, in the court's view, because it "provides the means by which users control and operate Lotus 1-2-3." Ibid. The court found that "[w]ithout the menu command hierarchy, users would not be able to access and control, or indeed make use of, Lotus 1-2-3's functional capabilities." Id. at 16a, 18a-19a. The court distinguished the menu command hierarchy from the underlying computer code for purposes of copyrightability because "while code is necessary for the program to work, its precise formulation is not" and thus it is original expression subject to copyright. Ibid. Noting the district court's holding that the command hierarchy "constituted an 'expression' of the 'idea' of operating a computer program with commands arranged hierarchically into menus and submenus," id. at 17a, the court held that "expression that is part of a 'method of operation" cannot be copyrighted." Id. at 17a, 21. For, "[i]f specific words are essential to operating something, then they are part of a 'method of operation' and, as such, are unprotectable." Ibid. The court of appeals found that the Lotus 1-2-3 menu command hierarchy falls within the prohibition on copyright protection established in Baker v. Selden, 101 U.S. at 104-105, and codified by Congress in Section 102(b).[6]

Judge Boudin filed a concurring opinion in which he observed that

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[6] The court of appeals declined to apply the analysis set forth by the Second Circuit in Altai, because it viewed that analysis to be applicable in instances of alleged copying of nonliteral expression and not in instances, such as here, of literal copying. See Pet. App. 13a-15a.

this case "is an unattractive one for copyright protection of the menu." Pet. App. 26a. He pointed out that respondent had not "shown any interest in the Lotus 1-2-3 menu except as a fall-back option for those users already committed to it by prior experience or in order to run their own macros using 1-2-3 commands." Id. at 25a. He found it unlikely that anyone who values the Lotus menu for its own sake, would seek access to it by choosing respondent's program. Id. at 26a. Therefore, the question was "not whether Borland should prevail, but on what basis." Id. 27a. In Judge Boudin's view, the court's focus on "method of operation" as an answer to that question was "defensible," id., even though Section 102(b) "if taken literally might easily seem to exclude most computer programs from [copyright] protection." Id. at 24a. Judge Boudin suggested that another approach would be to deem respondent's use of the copied command hierarchy to be a privileged use analogous to a fair use. Id. at 27a-28a.[7]

## SUMMARY OF ARGUMENT

The Copyright Act of 1976, 17 U.S.C. 101 et seq., embodies the long established distinction between ideas, which are not protectable by copyright, and original expression, which is susceptible to copyright -- a distinction that was first applied in Baker v. Selden,

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[7] After the court of appeals issued its mandate, the district court vacated the injunction. Order Vacating Permanent Injunction, May 25, 1995. Pursuant to local rules, the case was transferred to a different district judge, and respondent moved for entry of judgment, contending that no issues remained to be resolved. The district court declined to enter judgment, Order, June 30, 1995, and respondent has appealed and filed a petition for mandamus. These matters are pending before the court of appeals. Nos. 95-1793 and 95-1885 (1st Cir.).

101 U.S. 99 (1879). Congress made clear that, by enacting Section 102 of the Act, it codified the idea/expression dichotomy for determining copyrightability. To the extent the court of appeals' analysis may be read as disregarding that fundamental dichotomy, the Court should reject it. The court of appeals' broad reading of the phrase "method of operation," in Section 102(b) of the Act, should not be permitted to preclude copyright protection for original expression in a copyrightable work. Although the court of appeals' reading did not lead it to an erroneous result in this case, we believe that, if left uncorrected, the court of appeals' interpretation could effectively nullify Congress' decision to treat computer programs as literary works eligible for protection under the Act.

The text, structure and history of the Copyright Act establish that computer programs are subject to copyright as literary works under the Act. At the time of enactment of the Act, Congress treated computer programs as literary works and Congress's amendments to the Act in 1980 were based on that premise.

As is the case with other works of authorship, however, the mere fact that a work is copyrighted does not mean that all parts of the work are protected by the copyright. As noted above, only the original expression in a computer program is protected, not ideas embodied in the work. We agree with the court of appeals' conclusion that the command hierarchy used by Lotus 1-2-3 is not subject to copyright protection. The command hierarchy is not, itself, a computer program; rather, it is a type of programming language, analogous to the rules of a game. It constitutes an abstract system

of rules that defines permissible sequences of symbols, expressed as keystrokes or otherwise, and assigns meaning to those sequences. The hierarchy itself does not instruct the computer to carry out any function; it is the structure of a language that allows the user and Lotus 1-2-3 to communicate. As such, it facilitates, but is not itself, expression. Therefore, it cannot be afforded copyright protection by Section 102(a) which protects only original expression.

The Court should affirm the court of appeals' judgment vacating the injunction that had enjoined respondent from distributing any version of its product capable of interpreting and carrying out user commands expressed in the Lotus 1-2-3 macro language. Whether respondent's emulation mode involved copying of specific words (or other elements of the Lotus 1-2-3 interface beyond the command hierarchy) that constitutes infringement is not properly before the Court at this juncture. See, supra, note 5. We offer no view on those issues beyond suggesting that, if petitioner wishes to pursue such claims, the lower courts should address them in the first instance.

## ARGUMENT

### I. COPYRIGHT PROTECTS ORIGINAL EXPRESSION, NOT IDEA; SECTION 102 OF THE COPYRIGHT ACT OF 1976 CODIFIED THAT DISTINCTION

#### A. Section 102 of the Copyright Act extends protection only to original expression in a copyrightable work, not to ideas embodied in the work

"The primary objective of copyright is not to reward the labor of authors, but '[t]o promote the Progress of Science and useful Arts.' Art. I, §8, cl.8. * * * To this end, copyright assures authors the

right to their original expression, but encourages others to build freely upon the ideas and information conveyed by a work. * * * This principle, known as the idea/expression or fact/expression dichotomy, applies to all works of authorship." Feist Publications, Inc. v. Rural Telephone Serv. Co., 499 U.S. 340, 349-350 (1991). Under this fundamental principle, ideas -- regardless of their originality, creativity, or importance and regardless of the effort involved in generating them -- cannot be copyrighted. "[N]o author may copyright facts or ideas. The copyright is limited to those aspects of the work--termed 'expression'--that display the stamp of the author's originality." Harper & Row, Publishers, Inc. v. Nation Enterprises, 471 U.S. 539, 547-548 (1985).

The seminal case applying the idea/expression dichotomy, if not its terminology, is Baker v. Selden, 101 U.S. 99 (1879). Selden had copyrighted several books on a system of bookkeeping. His books explained the bookkeeping system and contained illustrative accounting forms showing how the system is to be used in practice. The system effected the same result as double-entry bookkeeping, but "by a peculiar arrangement of columns and headings, present[ed] the entire operation * * * on a single page or on two pages facing each other in an account book." Id. at 102. Baker subsequently published account books "prepared upon the plan" set forth in Selden's books, although Baker arranged the columns differently and used different headings. Id. at 100-101, 104. The Court ruled that Baker did not infringe Selden's copyright because the copyright in Selden's book did not give Selden an exclusive right to use the bookkeeping system he described

and it "did not confer upon him the exclusive right to make and use account-books, ruled and arranged as designated by him and described and illustrated in said book." Id. at 107. The Court distinguished between Selden's book that explained the system and was entitled to copyright, and the accounting system which it was intended to illustrate. The Court explained that any exclusive right to use the system was "the province of letters patent, not of copyright." Id. at 102. The Court held, moreover, that when a book teaches a useful system that "cannot be used without employing the methods and diagrams used to illustrate the book, or such as are similar to them, such methods and diagrams are to be considered as necessary incidents to the art, and given therewith to the public," for purposes of "practical application." Id. at 103.

The Court unequivocally reaffirmed the idea/expression dichotomy 75 years later in Mazer v. Stein, 347 U.S. 201 (1954). The Court explained that "[u]nlike a patent, a copyright gives no exclusive right to the art disclosed; protection is given only to the expression of the idea--not the idea itself." Id. at 217. The Court thereby reinforced the fact that the idea/expression dichotomy is the well-established dividing line for determining copyrightability.

Congress wrote against the backdrop of this settled understanding of copyright law when, after years of study, it enacted the Copyright Act of 1976, 17 U.S.C. 101 et seq., to replace the Copyright Act that had governed since 1909, Pub. L. No. 94-553, 90 Stat. 2541 (1909). Section 102 of the 1976 Act provides:

> (a) Copyright protection subsists, in accordance with this title, in original works of authorship fixed in any

> tangible medium of expression, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device. Works of authorship include the following categories:
>
> (1) literary works;
> (2) musical works, including any accompanying words;
> (3) dramatic works, including any accompanying music;
> (4) pantomimes and choreographic works;
> (5) pictorial, graphic and sculptural works;
> (6) motion pictures and other audiovisual works;
> (7) sound recordings; and
> (8) architectural works.
>
> (b) In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.

17 U.S.C. 102. By enacting Section 102, Congress intended to codify the fundamental idea/expression dichotomy. As this Court explained:

> Congress emphasized that § 102(b) did not change the law, but merely clarified it: "Section 102(b) in no way enlarges or contracts the scope of copyright protection under the present law. Its purpose is to restate * * * that the basic dichotomy between expression and idea remains unchanged."

Feist Publications, 499 U.S. at 356, quoting H.R. Rep. No. 1476, 94th Cong., 2d Sess. 57 (1976) (1976 House Report); S. Rep. No. 1473, 94th Cong., 2d Sess. 54 (1976).

B. The court of appeals' interpretation of "method of operation" for purposes of Section 102(b) of the Act is inconsistent with the idea/expression dichotomy underlying the Act.

The court of appeals misconstrued Section 102(b) by failing to interpret that provision in the context of the long-established idea/expression dichotomy that determines what is subject to copyright protection. The court appeared to interpret Section 102(b) as a bar to copyright protection for an expressive work of authorship if the

work expresses a method operation. Thus, the court erred in that it interpreted "method of operation" as used in Section 102(b) to reach both idea and expression. But, as demonstrated above, Congress intended through Section 102(b) to exclude from copyright protection ideas and similarly abstract concepts such as methods and processes, but not to preclude copyright for the original expression in which such an idea is presented.[8]

To the extent the court of appeals' analysis can be read to be inconsistent with the idea/expression dichotomy, it should be rejected. By failing to give effect to Congress's intent to protect expression while leaving idea unprotected, it raised unjustified doubts about the copyright status of any work of authorship that could be characterized as "procedure, process, system, [or] method of operation." Other courts of appeals have recognized correctly that Section 102(b) codified the idea/expression dividing line for copyrightability. Computer Associates International, Inc. v. Altai, Inc., 982 F.2d 693, 703 (2d Cir. 1992) (idea/expression dichotomy "has been incorporated into the governing statute" in Section 102(b)); Whelan Assocs., Inc. v. Jaslow Dental Lab., Inc., 797 F.2d 1222, 1234 (3d Cir. 1986) ("§ 102(b) was intended to express the idea-expression dichotomy"), cert. denied, 479 U.S. 1031 (1987); M. Kramer Mfg. Co. v. Andrews, 783 F.2d 421, 434 (4th Cir. 1986) (Section 102(b) intended as

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[8] It would appear that Congress adopted the term "methods of operation" from the Court's use of the term in Baker v. Selden in the course of its explanation that "[t]he copyright of a work on mathematical science cannot give to the author an exclusive right to the methods of operation which he propounds." 101 U.S. at 103. The Court clearly would have accorded copyright protection to the expression in a book that described the methods, however.

codification of principle that copyright protection extends only to expression of the idea, not the idea); Apple Computer, Inc. v. Franklin Computer Corp., 714 F.2d 1240, 1252-1253 (3d Cir. 1983) ("expression/idea dichotomy is now expressly recognized in section 102(b)); Apple Computer, Inc. v. Microsoft Corp., 35 F.2d 1435, 1443 & n.11 (9th Cir. 1994), cert. denied, 115 S. Ct. 1176 (1995) (Section 102 codifies idea/expression principle of Baker v. Selden); Cf. Gates Rubber Co. v. Bando Chem. Indus., 9 F.3d 823. 836-837 (10th Cir. 1993) (Section 102(b) codified idea-expression dichotomy and process-expression dichotomy).

## II. COMPUTER PROGRAMS ARE SUBJECT TO COPYRIGHT PROTECTION AS LITERARY WORKS

The court of appeals correctly recognized that Congress intended to provide copyright protection to computer programs by treating them as literary works for purposes of Section 102(a) of the Act. Pet. App. 11a n.5. But, the court of appeals' misinterpretation of "method of operations," discussed above, rendered the court's opinion internally inconsistent and raised doubts about the copyrightability of computer programs because any computer program, by definition, is a means by which a computer is operated. See Pet. App. 25a (Boudin, J., concurring). Any suggestion that computer programs are not subject to copyright protection as literary works would be inconsistent with the text, structure and history of the Act.

### A. Congress considered computer programs subject to copyright as literary works when it enacted the Copyright Act of 1976.

It is clear that, at the time Congress enacted the Copyright Act of 1976, computer programs were considered copyrightable as literary

works. Section 102(a), set forth in full above, specifies that copyright protection "subsists * * * in original works of authorship," and defines "works of authorship" to include several categories, the first being "literary works." In Section 101 of the Act, Congress defined "literary works" to mean

> works, other than audiovisual works, expressed in words, numbers, or other verbal or numerical symbols or indicia, regardless of the nature of the material objects, such as books, periodicals, manuscripts, phonorecords, film, tapes, disks, or cards, in which they are embodied.

17 U.S.C. 101, para. 20 (emphasis added). A computer program falls directly within that definition as a work expressed in words, numbers or other symbols that is embodied in a book, tape or disk. Any possible doubt regarding the scope of that unambiguous definition was resolved by the accompanying House Report that explicitly stated that "the term 'literary works'" includes "computer data bases and computer programs to the extent that they incorporate authorship in the programmer's expression of original ideas, as distinguished from the ideas themselves." 1976 House Report 1476.

Elsewhere in the Act, Congress addressed the question of how computer use of a work affects the exclusive rights of the copyright owner with respect to those uses. See Pub. L. No. 94-553, 90 Stat. 2565 (1976) (Section 117 as initially enacted). Congress made clear that computer use of a work would not afford any greater or lesser rights to the owner of a copyright in the work. In discussing this provision, the House Report explained that the "Commission on New Technological Uses [CONTU] is, among other things, now engaged in a thorough study of the emerging patterns in this field and it will, on

the basis of its findings, recommend definitive copyright provisions to deal with the situation." House Report 116. The Report emphasized, however, that, "[w]ith respect to the copyright-ability of computer programs, the ownership of copyrights in them, [and] the term of protection," the new Copyright Act of 1976 would apply. Ibid.

B. Congress's amendment of the Copyright Act in 1980 reaffirmed that computer programs are subject to copyright protection as literary works.

In 1980, Congress amended the Copyright in two respects, both of which reaffirm the conclusion that the Act authorizes copyright protection for computer programs. Congress added to the Act a definition of "computer program" that states:

> A "computer program" is a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result.

17 U.S.C. 101, para. 41; see Pub. L. No. 96-517, § 10(a), 94 Stat. 3028 (1980). Congress also enacted a new Section 117 "in regard to copyrights on computer programs." See Pub. L. No. 96-517, § 10(b), 94 Stat. 3028 (1980); H.R. Rep. No. 1307, Pt. 2, 96th Cong., 2d Sess. 16 (1980). Section 117, as amended in 1980, provides that notwithstanding Section 106 of the Act which affords copyrights owners certain exclusive rights such as copying of their work, "it is not an infringement for the owner of a copy of a computer program" to make an additional copy of the program so long as the additional copy is made for "archival purposes" or is "an essential step in the utilization of the computer program." 17 U.S.C. 117. The 1980 amendment to Section 117 was thus directly premised on the belief that computer programs are subject to copyright. The language of Section 117, "by carving

out an exception to the normal proscriptions against copying, clearly indicates that programs are copyrightable and are otherwise afforded copyright protection." Apple Computer, Inc. v. Franklin Computer Corp., 714 F.2d at 1248.

Again, any possible doubt that Congress intended the Copyright Act to afford protection to computer programs was resolved by the history of the amendments. As the House Report accompanying the legislation explained, the two amendments "embod[ied] the recommendations of the Commission on new Technology Uses of Copyrighted Works [CONTU] with respect to clarifying the law of copyright of computer software." H.R. Rep. No. 1307, Pt. 1, 96th Cong., 2d Sess. 23. CONTU had been established in 1974, by an Act of Congress, to study the use of copyrighted works in new technologies, including computers, and to provide a report detailing, inter alia, its findings and recommendations regarding changes in copyright law. Pub. L. No. 93-573, 88 Stat. 1873 (1974). In its Final Report, CONTU recommended that the copyright law be amended to "make it explicit that computer programs, to the extent that they embody an author's original creation, are proper subject matter of copyright." National Commission on New Technological Uses of Copyrighted Works, Final Report 1 (1979) (CONTU Report). As noted above, the 1980 amendments were intended to embody CONTU's recommendations.[9]

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[9] In addition, Congress has ratified certain international trade agreements that commit member countries to afford copyright protection to computer programs as literary works. See Pub. L. No. 130-182, xxx Stat. xxxx (1993); Pub. L. No. 103-826, xxx Stat. xxx (1994). Congress's ratification of those agreements bolsters the conclusion that Congress interpreted the Copyright Act of 1976 to permit such copyright protection.

In light of the clear congressional intent, rooted in the text, structure and history of the Copyright Act, courts of appeals have found that "the copyrightability of computer programs is firmly established." Williams Electronics, Inc. v. Artic International, Inc., 685 F.2d 870, 875 (3d Cir. 1982); see also Computer Assoc. Int'l v. Altai, Inc., 982 F.2d at 702; Whelan Assoc., Inc. v. Jaslow Dental Laboratory, Inc., 797 F.2d at 1234; M. Kramer Mfg. Co. v. Andrews, 783 F.2d at 432; Apple Computer v. Franklin Computer Corp., 714 F.2d at 1251, 1253-1254. This Court should rule likewise.

## III. THE COMMAND HIERARCHY USED BY LOTUS 1-2-3 IS NOT PROTECTED BY PETITIONER'S COPYRIGHT BECAUSE IT IS NOT, ITSELF, ORIGINAL EXPRESSION SUSCEPTIBLE TO COPYRIGHT UNDER SECTION 102(a) OF THE ACT

### A. Computer programs are not exempted from the general rule of Section 102 that copyright protects expression, not ideas.

As this Court has recognized, "[t]he mere fact that a work is copyrighted does not mean that every element of the work may be protected." Feist Publications, 499 U.S. at 348. To determine what aspects of a copyrighted work are protected, the focus is on where to "fix that boundary" between protectable original expression and unprotectable idea. Nichols v. Universal Pictures Corp., 45 F.2d 119, 121 (2d Cir. 1930), cert. denied, 282 U.S. 902 (1931) (Hand, J.). As with any other work subject to copyright under Section 102(a), only the original expression of a computer program is protected by the program's copyright. Congress did not intend to change that fundamental principle when it came to computer programs. The House Report accompanying the 1976 Act addressed the issue directly:

> Some concern has been expressed lest copyright in computer programs should extend protection to the

> methodology or processes adopted by the programmer, rather than merely to the "writing" expressing his ideas. Section 102(b) is intended, among other things, to make clear that the expression adopted by the programmer is the copyrightable element in a computer program, and that the actual processes or methods embodied in the program are not within the scope of the copyright law.

1976 House Report 56.

Drawing the line between idea and expression in a computer program "is a tricky business." Altai, 982 F.2d at 704. In its Final Report, CONTU observed that "the distinction between copyrightable computer programs and uncopyrightable processes or methods of operation does not always seem to 'shimmer with clarity.'" CONTU clarified the distinction by reference to the Baker v. Selden ruling that use of a system does not infringe the copyright in the description of the system. CONTU further explained:

> The "idea-expression identity" exception provides that copyrighted language may be copied without infringing when there is but a limited number of ways to express a given idea. This rule is the logical extension of the fundamental principle that copyright cannot protect ideas. In the computer context, this means that when specific instructions, even though previously copyrighted, are the only and essential means of accomplishing a given task, their later use by another will not amount to an infringement.

CONTU Report 20 (emphasis added).

The lower courts have reached somewhat of a consensus on an analysis that is helpful in the effort to discern the idea/expression line in cases involving computer programs. The commonly applied approach was first articulated in Computer Assocs. Int'l v. Altai, Inc., 982 F.2d. 693 (1992). The Altai court recognized "that computer technology is a dynamic field which can quickly outpace judicial decisionmaking," and took into account the utilitarian functions of

computer code as well as the fact that a computer program usually encompasses more than one idea. According to the Altai approach, a court must engage in a process to identify the unprotected ideas before comparing the works to identify copying of protected material. The Altai approach is described as an abstraction-filtration-comparison three-step analysis. The court determines the unprotected ideas at the abstraction step. At the filtration step, this unprotected material is removed from the analysis, along with material that is unprotected for other reasons, such as public domain or merger. At the third step, the court compares the remaining protected expression to determine infringement. Courts have adapted the approach to a variety of situations. See Engineering Dynamics, Inc. v. Structural Software, Inc., 26 F.3d 1335 (5th Cir. 1994); Gates Rubber Co. v. Bando Chem. Indus, 9 F.3d 832 (10th Cir. 1993); Autoskill, Inc. v. National Educ. Support Sys., 994 F.2d 1476, 1495 n.23, cert. denied, 114 S. Ct. 307 (10th Cir. 1993); Atari Games Corp. v. Nintendo of Am., Inc., 975 F.2d 832 (Fed. Cir. 1992); Brown Bag Software v. Symantec Corp., 960 F.2d 1465, 1477 (9th Cir.), cert. denied, 113 S. Ct. 198 (1992).

The court of appeals below declined to apply the Altai analysis because it believed that analysis was not helpful in a case involving literal copying, rather than copying of nonliteral elements of the copyrighted work. Pet. App. 14a. That distinction appears to be a matter of semantics, however, because the court's analysis appears consistent with Altai. Because the court found the command hierarchy unprotectable, it filtered that material out of the analysis. Because

the other features of the user interface were not before the court of appeals, see note 5, supra, the court had nothing left to compare and found no infringement. See Mark A. Lemley, Convergence in the Law of Software Copyright?, 10 High Tech. L.J. 1, 22 (1995). The district court believed that its analysis was consistent with the Altai approach. The district court erred, however at the first step because it did not correctly determine what constituted the ideas of the program at its various levels of abstraction. Because we agree with the court of appeals that the command hierarchy is not subject to copyright protection, application of the Altai approach would lead us to the conclusion that respondent's key reader did not infringe and likewise for the emulation mode, but only to the extent the copying alleged was limited to the command hierarchy.

B. The command hierarchy used by Lotus 1-2-3 to identify the functions evoked by particular sequences of computer keystrokes constitutes an idea not subject to copyright.

Respondent's key reader was able to interpret macros written in the Lotus 1-2-3 macro language by the only means possible, by using the Lotus 1-2-3 command hierarchy structure -- an abstract conceptual organization that gives meaning to single keystrokes according to the order in which the user enters them. Pet. App. 39a. As the district court acknowledged:

> If a program did not have a representation of the 1-2-3 menu hierarchy somewhere within the program code (or in a file that is used by the code), then there is no way that the program could understand that "rfc" refers to a path through a menu tree to the specific executable operation that changes a cell or cells [sic] appearance to monetary units (i.e., a path through the range and format menus to the currency leaf).

Ibid. In other words, the copying at issue here was respondent's incorporation of the elements necessary to allow Quattro to "understand" certain commands a user entered, without regard to the form those elements took in respondent's program or any other similarity between literal or nonliteral elements of the Lotus 1-2-3 and Quattro computer programs. So understood, the command hierarchy constitutes the structure of a language.[10] The keystroke commands form the language's vocabulary and the hierarchy defines its syntax

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[10] In its Paperback decision, the district court declined to analyze the 1-2-3 user interface as a language. Pet. App. 242a-244a. The court noted that the defendant had cited no precedent supporting the contention that languages are not copyrightable. Pet. App. 244a. But there are also no prior cases holding that languages are copyrightable. The case of Reiss v. National Quotation Bureau, Inc., 276 F. 717 (S.D.N.Y. 1921), to which the court referred, considered only the question whether a list of meaningless coined words, with no syntax, was a "writing." Moreover, the Paperback case involved alleged copying of a much larger portion of the Lotus 1-2-3 interface, beyond the command hierarchy, and the court therefore understood Paperback to use the term "language" much more broadly than we do here. Our argument turns on the nature of the command hierarchy at issue in this particular case and not on use of the term "language" which is susceptible to a range of meanings. See, e.g., Webster's Third International Dictionary 1270 (defining "language" as, inter alia, "a systematic means of communicating ideas or feelings by the use of conventionalized signs, sounds, gestures or marks having understood meaning" and "an artificially constructed primarily formal system of signs and symbols (as symbolic logic) including rules for the formation of admissible expressions and their transformations"); Donald Spencer, Webster's New Word Dictionary of Computer Terms 323 (5th Ed. 1994) (defining "language" as "[s]et of rules, representations and conventions used to convey information. A way of passing instructions to the computer other than through direct input of number codes."); J.E. Sammet, "Programming Languages" 1228-1229 in Encyclopedia of Computer Science and Engineering (Anthony Ralston, ed., 1983) ("A programming language is a set of characters and rules for combining them," which has characteristics that distinguish "programming languages" from other languages); J.A.N. Lee, "Programming Linguistics" 1232-1233 in Ralston, supra ("Languages for communication between any two systems, be they human or mechanical, can be described by three intertwining concepts: syntax, semantics, and pragmatics," but because computer languages are artificial languages, "there exists no difference between the semantics and the pragmatics.")

and semantics. See Stern, supra, at 327-330.[11]

The command hierarchy is not a computer program because the hierarchy, i.e. the rules, do not instruct the computer to perform any operation or "bring about a certain result." 17 U.S.C. 101. Rather, statements that users write in the language according to those rules -- i.e., macros -- constitute such instructions.

The Lotus 1-2-3 macro language's set of rules (i.e. the command hierarchy) governs both the writing of statements in that language and the interpretation of those statements once they are written. Any particular computer program that will interpret programs (macros) written in the language defined by the command hierarchy must contain a representation of that abstract set of rules. This is necessary whether that computer program be a spreadsheet, a separate program that translates Lotus 1-2-3 macros into the language defined by the different command hierarchy of a different spreadsheet program, or a program that simply annotates the text of a macro with an English language rendition of the cryptic macro notation, so as to make it more understandable to humans and facilitate subsequent modifications. See Pet. App. 39a; Melville B. Nimmer and David Nimmer, 3 Nimmer on Copyright § 13.03[F], at 13-144.4 n.336.10 (1995) (district court's "ultimate holding would render infringing any conceivable macro translation device").

Rather than "the expression adopted by the programmer [which] is

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[11] In fact, the command hierarchy does not define the entire Lotus macro language. The command hierarchy does not encompass some of the vocabulary of the language, for example, the commands that cause a macro to pause. Thus, the key reader was not able to translate the more sophisticated macros that were written in Lotus 1-2-3.

the copyrightable element in a computer program," the set of rules, like an algorithm, is one of "the actual processes or methods combined in the program [which] are not within the scope of the copyright law." 1976 House Report 57. It is the "art" that Baker v. Selden made clear is unprotected despite copyright protection for the expression of that art.

Treating the Lotus 1-2-3 macro language, i.e. the command hierarchy, as an unprotectable idea is consistent with the general industry practice that existed prior to petitioner's instigation of the related Paperback litigation. See Note, Copyright Protection for Computer Languages: Creative Incentive or Technological Threat?, 39 Emory L.J. 1294, 1294 (1990) ("until 1987 no one had ever seriously considered claiming ownership to a computer language"); see Stern, supra, at 322 ("Until quite recently * * * [t]he general assumption was that computer programming languages are not subject to copyright protection because they were unprotectable 'ideas,' rather than protectable 'expressions' of ideas.") (footnotes omitted).[12]

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[12] Books setting forth computer languages are common. See, e.g., B. Kernighan & D. Ritchie, The C Programming Language (1978) (setting out the C programming language). Computer programmers copy such languages in order to program in the language. As one commentator has explained:

> The art of programming in C is a nonliteral element of the Kernighan and Ritchie book only to the extent that the art of Seldenian bookkeeping is a nonliteral element of Selden's book. The art of programming in the C language can be a protected nonliteral element of their book only by overruling the doctrine of Baker v. Selden.

Stern, supra, at 352. To program in C, one must know the defining elements of the C language, that is, its vocabulary, syntax, and semantics; the book details those. Use of the C language to instruct a computer requires a means of translating statements in the C language --

(continued...)

Lower court decisions do not directly address the copyrightability of languages as such, but they provide some support for viewing the rules of a language as uncopyrightable idea.[13] For example, it has long been established that systems of shorthand are not copyrightable, although works explaining the use of such systems may be protected. Brief English Systems v. Owen, 48 F.2d 555 (2d Cir.), cert. denied, 283 U.S. 858 (1931); Griggs v. Perrin, 49 F. 15 (N.D.N.Y. 1892). As the Second Circuit explained in Brief English

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[12](...continued)
source code -- into statements that the computer can understand. Creating the means to accomplish that translation by incorporating the defining elements of the language into a translation device (normally a computer program called a "compiler") should not, under Baker, infringe the copyright on the book, for it is necessary to practice the art. A copyright on the first C compiler, which necessarily contains within it an expression of the rules of C, should be understood to confer no protection for those rules, the language itself. Copyright on either literary work, the book or the computer program, should leave the language unprotected.

[13] In Synercom Tech. v. University Computing Co., 462 F. Supp. 1003, 1012-1014 (N.D. Tex. 1978), defendant's computer program accepted and used data stored in the format of plaintiff's copyrighted format cards. The court held that the ordering and sequencing of the data was idea, not expression. Since ordering and sequencing are the rules that give meaning to digits punched in cards, Synercom implies that a language is uncopyrightable idea, not expression. Engineering Dynamics, Inc. v. Structural Software, Inc., 26 F.3d 1335 (5th Cir. 1994), rejected aspects of Synercom, but not this one. Engineering Dynamics involved the formats at issue in Synercom, along with others, 26 F.3d at 1339, but no copyright protection for individual formats was claimed, only protection for the sequence and organization of the formats as a whole. Id. The court, emphasizing that the formats are "quasi-textual [and] consist of a series of words and a framework of instructions that act as prompts for the insertion of relevant data," id. at 1342, 1344, reversed a finding that the formats were unprotectable and remanded for further determinations. This suggests that the court would not protect a bare language. The court later explained, 46 F.23 at 410, that its opinion "cannot properly be read to extend * * * to the practice employed by users of programs of analyzing application programs to 'read' the file formats of other programs." This explanation is consistent with Synercom.

Systems, "[t]here is no literary merit in a mere system of condensing written words into less than the number of letters usually used to spell them out. Copyrightable material is found, if at all, in the explanation of how to do it."[14]

Courts also consider other sets of rules, such as the rules of games, to be unprotectable idea, although particular expressions of those rules, and the actual implementation of those rules in playable games, may be protectable. "[N]o copyright may be obtained in the system or manner of playing a game." M. Nimmer & D. Nimmer, 1 Nimmer on Copyright § 2.18[H][3][a], 2-204.18 (1995). Copyright in the written instructions for a game, moreover, "would not * * * permit a monopoly in the method of play itself, as distinguished from the form of instructions for such play." Id. at 2-204.19. Some courts have

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[14] Petitioner contends that it has long been established that "commercial cable and telegraph codes * * * were copyrightable, when embodied in the tangible medium of code books necessary to decipher their meaning," Br. 24-25, but the cases it cites, id. at 25 n.37, do not support the copyrightability of languages. Hartfield v. Peterson, 91 F.2d 998 (2d Cir. 1937), appears to have involved a book listing code phrases, arranged alphabetically under headings. Id. at 999. No issue of the copyrightability of such books, if original, was raised. The issue was whether the defendant had copied from plaintiff's book, or whether the similarities resulted from the use of common sources. The court, treating plaintiff's book as a compilation, emphasized that the compilation copyright protected the whole work, id. at 1000, and defendant was not free to copy from it. There is no indication that the court intended to protect rules of encoding and decoding, or the structure of a language. In American Code Co. v. Bensinger, 232 F. 829 (2d Cir. 1922), plaintiff claimed to have added a column of code words to a work uncopyrighted in the United States, and the court found the list copyrightable. Id. at 833. It saw little difficulty in preliminarily enjoining defendant's distribution of photo-lithographic copies of plaintiff's book. In Hartfield v. Herzfeld, 60 F. 599 (S.D.N.Y. 1932), the defendant waived the question of infringement, and the only issue before the court was whether the plaintiff had authorized defendant's copying. None of these cases analyze the copyrightability of a language according to the idea/expression dichotomy.

held that the wording of certain game and contest instructions were not protected by copyright "on the ground that the subject matter was such that only a limited number of forms of expression were possible, so that to prohibit copying would make it possible to obtain a monopoly on the system to which the instructions pertained." Ibid., citing Landsberg v. Scrabble Crossword Game Players, Inc., 736 F.2d 485 (9th Cir.), cert. denied, 469 U.S. 1037 91984); Affiliated Hosp. Prods., Inc. v. Merdel Game Mfg., 513 F.2d 1183 (2d Cir. 1975); Morrissey v. Procter & Gamble Co., 379 F.2d 675 (1st Cir. 1967).[15]

In sum, the rules that allow communication with a computer in the Lotus 1-2-3 language, like the rules that allow the playing of a particular game or the practice of a particular accounting system, are abstract ideas that may be expressed in copyrightable form, but are not themselves copyrightable expression under Section 102(a). This analysis preserves the public's right freely to use the rules to create original expression and serves the fundamental policy

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[15] In Atari, Inc. v. North American Philips Consumer Electronics Corp., 672 F.2d 607 (7th Cir.), cert. denied, 459 U.S. 880 (1982), the court considered whether the audio-visual copyright on the PAC-MAN video game had been infringed. In light of the idea-expression dichotomy of Section 102(b), the court concluded that "copyright protection does not extend to games as such." Id. at 615. It found that PAC-MAN "can be described accurately in fairly abstract terms, much in the same way as one would articulate the rules to such a game," holding that "[t]he audio component and the concrete details of the visual presentation constitute the copyrightable expression of that game 'idea.'" Id. at 617. Accord, M. Kramer Mfg. Co. v. Andrews, 783 F.2d 521, 435 (4th Cir. 1986) ("[s]trictly speaking, the game, the idea of the game, itself is not protected"); see also Morrissey v. Procter & Gamble, Inc., 379 F.2d 675, 678 (1st Cir. 1967) (substance of sweepstakes contest not copyrightable); cf. Crume v. Pacific Mut. Life Ins. Co., 140 F.2d 182 (7th Cir. 1944) (holder of copyright on pamphlets disclosing form of reorganization plan recognizes defendant's right to use the plan, claiming infringement only as to words used).

considerations underlying the Copyright Act. "[T]he Copyright Act must be construed in light of [its] basic purpose" of "stimulat[ing] artistic creativity for the general public good." Twentieth Century Music Corp., 422 U.S. at 156. In distinguishing idea from expression, "the line must be a pragmatic one, which also keeps in consideration 'the preservation of the balance between competition and protection reflected in the patent and copyright laws.'" Apple Computer, Inc. v. Franklin Computer Corp., 714 F.2d at 1253 (citation omitted).

Languages, in the world of computers as well as elsewhere, are building blocks. They dictate the manner in which humans communicate commands to computer programs, whether interactively at the keyboard or through macros. Thus, the competitive consequences of construing the copyright law to protect the structure of a language may be substantial. Consumers make an investment in learning a language and in developing the macros they need to employ it effectively. If the rules of a language are protected by copyright, the public is deprived of a building block needed for advancing the art efficiently through the competitive process. Users may be "locked-in" and will tolerate price increases rather than switch products, thus impeding technology advancements. Cf. Eastman Kodak Co. v. Image Technical Services, Inc., 504 U.S. 451, 476 (1992).

In enacting Section 102(b) of the Copyright Act, Congress made the choice to place limits on copyright protection in order to promote the free exchange and wide availability of ideas. Interpreting Section 102(b) to deny petitioner copyright protection for the Lotus 1-2-3 command hierarchy is faithful to Congress's purposes.

## CONCLUSION

The judgment of the court of appeals vacating the district court injunction should be affirmed. To the extent petitioner may still be able to pursue claims related to alleged copying of other aspects of the Lotus 1-2-3 interface that are not currently before the Court, a remand for further proceedings may also be appropriate.

Respectfully submitted.

DECEMBER 1995

E X E C U T I V E  O F F I C E  O F  T H E  P R E S I D E N T

05-Dec-1995 11:28am

TO: Kathleen M. Wallman

FROM: Elena Kagan
Office of the Counsel

SUBJECT: lotus

1. Ogden says Justice hasn't seen the letter either. Commerce told Joel Klein yesterday afternoon that it would be writing such a letter to Drew Days, but the letter has not yet arrived. Ogden promised he would send it on as soon as Justice receives it. Ogden also asked (not surprisingly) where we were; specifically, he asked whether "we were still counting noses."
2. I just read your memo, which seems to me right on target. Assuming we're not instructing DOJ to refrain from filing any brief, we should push DOJ towards a brief that really focuses on the misconceived rationale of the First Circuit. Of course, given the side we're on in the litigation, we will have to urge affirmance of the result and provide an alternative rationale for that result. But (1) the real focus should be on repudiating the First Circuit's reasoning, and (2) the alternative rationale should be as narrow as possible.

MEMORANDUM FOR JACK QUINN

FROM: Kathleen Wallman

SUBJECT: Justice Department Brief in *Lotus* v. *Borland*

DATE: December 5, 1995

COPY: Elena Kagan

1. Did you receive a letter on this subject in the last twenty-four hours from Commerce and PTO? May I have a copy if you did?

2. I think you need to call Jamie today to follow up on the meeting yesterday. The salient points are as follows, I think:

a. There was not unanimity among the parties at the table about Justice filing the brief. Commerce felt most strongly that no brief should be filed. CEA supported the filing of a brief. Other agencies thought that it might be possible for some narrow version of the brief to be filed without doing unacceptable damage to positions taken vis-a-vis our trading partners.

b. The NEC's process is not about giving or not giving permission for the filing of a brief; it is a forum for airing views about policy issues raised when it is proposed that the United States state a position that may have policy implications for other agencies' missions. What DOJ should take away from the meeting yesterday is strong reservations from several quarters about filing a broadly written brief that takes on more than the very narrow mission of giving the Supreme Court a way to analyze the *Lotus* case without relying on the reasoning of the First Circuit -- which all interested agencies appear to regard as flawed and too far-reaching.

c. It is crucial that these reservations be given due regard and full effect in writing the brief that will be filed on Friday, assuming that the Solicitor General decides so to proceed.

d. A number of the interested agencies and some in the White House wished that there had been more time to sort out the policy questions raised by *Lotus*, which go fundamentally to striking the right balance between intellectual property rights and antitrust concerns, against the backdrop of international trade issues. Indeed, one of the reasons that some have been reluctant to give Justice's views of the case full reign is the lack of time to work through the implications. Justice might have overcome these concerns if there had been more time. Is there something that we can do to identify these issues sooner?

E X E C U T I V E  O F F I C E  O F  T H E  P R E S I D E N T

04-Dec-1995 06:41pm

TO: Kathleen M. Wallman

FROM: Elena Kagan
Office of the Counsel

SUBJECT: computers

David Ogden just called wanting to know what was up. He said John and Joel had come away from the meeting thinking that there was a general counsensus (1) that we should file a brief, if only to repudiate the 1st Circuit's reasoning, and (2) that given DOJ's prior decision to file on Borland's side, the brief would have to provide an alternative rationale, based in the idea/expression dichotomy, for finding that the command hierarchy was non-copyrightable. Ogden said he'd just heard that there is no such consensus -- that Commerce/PTO has just sent a letter to Jack and/or Drew indicating that such a brief would be unacceptable. (Do you have a copy of this letter?) Ogden said it continues to be DOJ's view that we should file a brief repudiating the 1st Circuit's reasoning, but supporting its result on the narrower idea/expression ground. I said we'd get back to Justice tomorrow.

12/4 Telecon David Ogden

My - need to file to get victory of 1st Cir op.
need to do something to support Parker given which side
we're on. Thought PTO would go along. But now...
PTO/commerce - sent letter saying this was not their
position. ? → to Jack on Brew?
? wait countenance any support of Parker,
along the lines of the DOJ brief.